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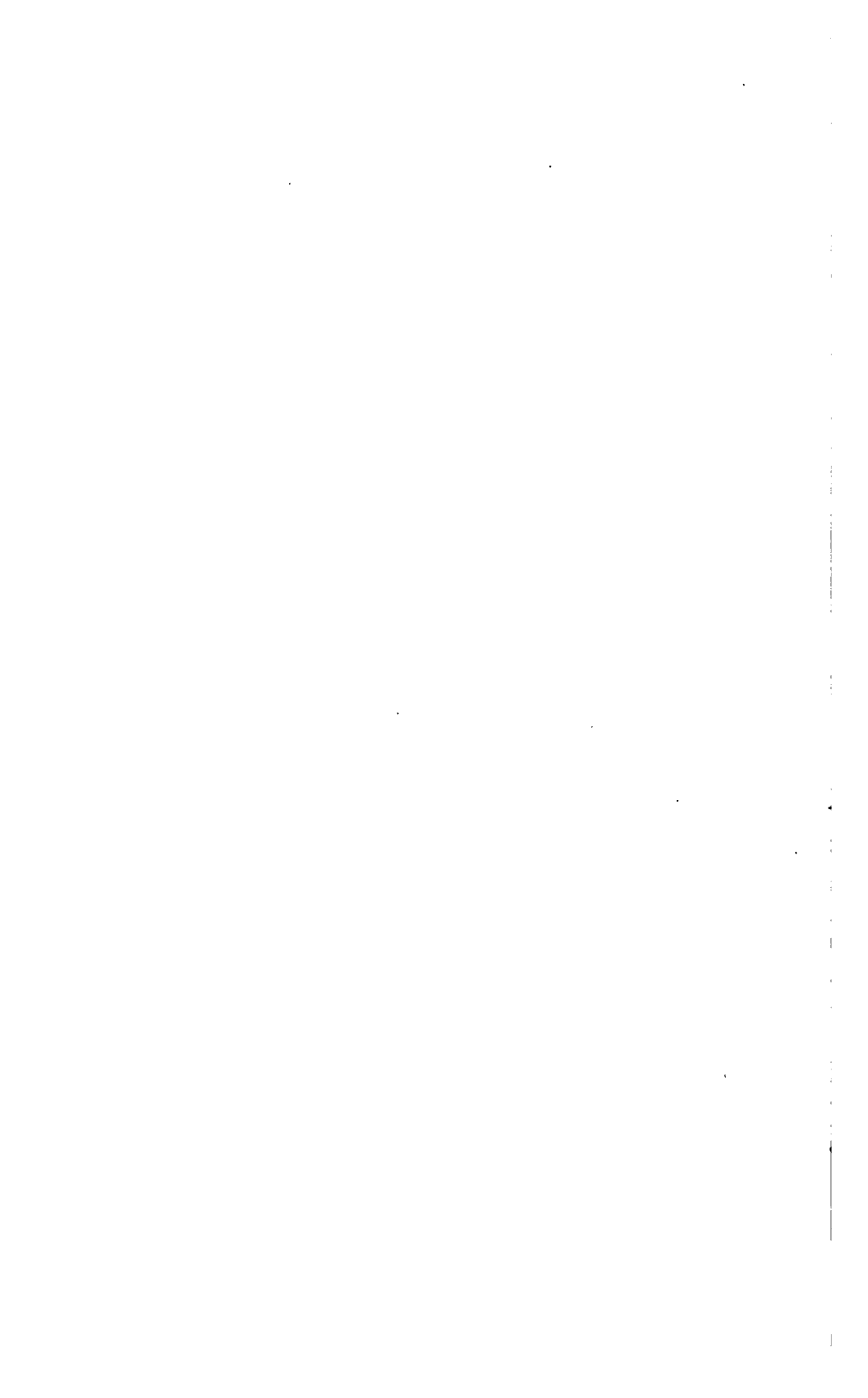


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LECTURES
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POPULAR EDUCATION.

LECTURES
ON
POPULAR EDUCATION;

DELIVERED TO THE
EDINBURGH PHILOSOPHICAL ASSOCIATION,
IN APRIL AND NOVEMBER 1833.

Published by request of the Directors of the Association.

By GEORGE COMBE.

THIRD EDITION, CORRECTED AND ENLARGED.

"The efforts of the people are still wanting for the purpose of promoting Education; and Parliament will render no substantial assistance, until the people themselves take the matter in hand with energy and spirit, and the determination to do something."—*Lord Brougham's Speech at York, 10th October 1833.*

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1848

PREFACE TO THE SECOND EDITION.

THE following Lectures were first delivered in April 1833, at the end of a course of Lectures on Phrenology ; and again in the month of November of the same year. At the request of the Directors of the Philosophical Association, they were then published, in the form of a pamphlet. Immediately afterwards they were, with my permission, reprinted by Messrs W. and R. Chambers in their widely-circulated journal. At a later period, a part of them was incorporated into the text of the " Constitution of Man." In these circumstances it seemed unnecessary to reproduce the original lectures in a separate form, and they were allowed to remain for some time out of print. Having been informed, however, that the public continued to demand the work, the present edition has been prepared, and I have endeavoured to make some corrections, additions, and improvements, which I hope may increase its value. In its present form it contains a condensed and comprehensive summary of the chief objects which should be aimed at in popular education.

Since these Lectures first appeared, a great improvement has taken place in popular education ; and the principles and practices which they recommend, although at first assailed with ridicule, have already, to a considerable extent, been carried into effect. I allude particularly to the diffusion of useful knowledge by means of lectures on science to popular audiences. There is an increasing demand throughout the country for such instruction, and lecturers are much wanted. So far back as 1796 Dr Beddoes published " A Lecture introductory to a course of popular instruction on the Constitution and Management of the Human Body," and in 1797 lectures on Animal and Human Physiology were delivered to a miscellaneous audience of both sexes at Bristol. When I ventured to revive this practice in my own courses of instruction, and recommended it in these published Lectures, it was objected to as improper and dangerous. The subject, however, has proved so attractive and useful that already it has ceased to be a novelty, and numerous successful courses of lectures have been delivered on it in various parts of the country.

EDINBURGH, 16th January 1837.

PREFACE TO THE THIRD EDITION.

A third Edition of these Lectures being now called for, I have endeavoured by notes, and also by enlargement and modification of the text, to adapt them to the present time. In doing so, I have been forcibly struck with the rapid progress made by the public mind since 1833, towards forming a just estimate, not only of the importance of education, but of its principles, objects, and practical development. In Edinburgh one branch of popular education has recently been instituted, and successfully carried into practice, that was not even contemplated when these lectures were composed. Dr Mainzer has taught singing and a knowledge of music to more than a thousand children of the humbler classes of society, to the

manifest improvement of their taste and manners, and I have no doubt also of their morals; for every means of supplying innocent and refined pleasure necessarily tends to moral advancement. The grounds on which this branch of education is recommended are ably and successfully expounded in Dr Mainzer's work on "Music and Education."*

While this Edition is in the press, a new Revolution has taken place in France, Louis Philippe has been dethroned, and a Republic proclaimed. Whatever may be the immediate consequences of this event, I cannot doubt that its ultimate result will be the extension of the power of the people in every country of Europe, and especially in our own. Not a day should be lost, therefore, in qualifying the people, by instruction and training, to distinguish between good and evil, and between the possible and the impossible, in human institutions.

Hitherto, the cause of national education has been greatly impeded by contentions regarding the teaching of religious doctrines in schools. In a series of pamphlets lately published,† I have endeavoured to shew that the world, both moral and physical, is governed by natural laws, instituted by the Creator to serve as guides to human conduct, and that the great aim of secular education should be to communicate a knowledge of these laws, and of the mode in which they are administered, and to train the young to yield obedience to them in their actions. Such an education would tend to protect a country from the evils of revolution. If there be Divine arrangements in nature, connecting consequences of good or evil with every mode of action, and if it be impossible to reach either individual or social happiness except by submitting to them, the people may be enabled to understand that that form of government will be most perfect which coincides most closely with their requirements. No revolution can unseat the Eternal Ruler of the Universe, or alter, or enable men to evade His laws. If this truth were demonstrated to the youthful mind as a practical fact, and the rising generation were trained to pay homage to it and its consequences, in their conduct, we should at last feel that social order rested on the basis of nature. The points of religious doctrine on which rival sects differ, are feeble as cobwebs in restraining an excited people in the whirlwind of revolutionary passion; but the truths of religion in which all are agreed, fortified by a deep conviction that the Divine Ruler has established, even in this world, an inseparable connection between virtue, both public and private, and prosperity, might probably furnish a firmer basis for the maintenance of social order, than these discordant doctrines have ever afforded. True religion would harmonize with, hallow, vivify, and render practical, a scheme of education founded on the principles revealed to man in the order of God's secular Providence. The chief object of the present publication, and of the others before named, is to promote this conviction in the public mind.

45 MELVILLE STREET, EDINBURGH,
6th March 1848.

* Music and Education. By Dr MAINZER. 8vo, pp. 125. London: Longman & Co.; Edinburgh: Adam and Charles Black, 1848.

† Remarks on National Education. 8vo, *Fourth Edition*, price 4d.

On the Relation between Religion and Science. 8vo, *Third Edition*, price 6d.
What should Secular Education Embrace? 8vo, price 6d.

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LECTURE I.

OBJECTS OF EDUCATION.

A FEW years ago, no question was more frequently asked than, What is the use of Education ? It was often difficult to give a satisfactory answer, not because education was of no use, but because utility itself was viewed so differently by different individuals, that it was impossible to shew that education was calculated to realise the precise advantage which each aspired to attain. Besides, education is calculated to correct so many errors in practice, and to supply so many deficiencies in human institutions, that volumes would be necessary to render its real importance thoroughly conspicuous.

Instead of obtaining from education a correct view of the nature of man, and of the objects and duties of life, each individual has been left to form, upon these points, theories for himself, derived from the impressions made upon his own mind by the particular circumstances in which he has been placed. This has arisen from the want of a practical philosophy of mind. No reasonable person assumes himself to know the sciences of Astronomy, Chemistry, or Physiology, without study and an appeal to nature ; yet, in the department of Mind, the practice is different. Almost every one has a set of notions of his own, which, in his mind, hold the place of a system of the philosophy of man ; and, although he may not have methodised his ideas, or even acknowledged them to himself as a theory, yet, to him, they constitute a standard by which he practically judges of all questions in morals, politics, and religion. He advocates whatever views coincide with them, and condemns all that differ from them, with as little hesitation as a professed theorist himself, and also without trying his own principles by any natural standard. In short, the great mass even of educated men, in judging of questions relating to morals, politics, and social institutions, proceed too much on first, or even on accidental, impressions. Hence, public measures, whether relating to education, religion, trade, manufactures, provision for the poor, criminal law, or to any other of the in-

terests of society, instead of being treated as branches of one general system of economy, and adjusted on scientific principles, each in harmony with the others, are too often supported or opposed on narrow and empirical grounds,—and discussions regarding them occasionally call forth displays of ignorance, prejudice, and intolerance, calculated greatly to obstruct the progress of improvement. Indeed, general agreement on questions of which the first principles must be found in the constitution of human nature, will be impossible, even among sensible and virtuous men, so long as no standard of mental philosophy is admitted to guide individual feelings and perceptions. Hence, when a young man, educated as a merchant, asks the use of any thing, the answer which will most thoroughly interest him, will be one shewing how much wealth may be acquired by it. The sincerely religious will acknowledge that to be most useful, which tends most directly to salvation; while the votaries of fashion will admit the utility of such pursuits only as are recognised by the refined but frivolous and generally ill-informed circle, which to them constitutes the highest tribunal of taste. To expound to such persons, principles affecting the general interests of society, and to talk to them of schemes for promoting the happiness of human beings, in their various conditions of husbands and wives, parents and children, masters and servants, teachers and pupils, governors and subjects, appears like indulging a warm imagination in fanciful harangues. They are of opinion that the experience of six thousand years is sufficient to shew, that man is not destined in this life to be different from what he has always been and now is; and that any measures pretending greatly to improve his condition, however desirable, are not at all to be believed in by sensible and practical people. This state of things could not exist if education were founded on a true system of human nature, and an exposition of its relations to the external world.

To enable us to form a just estimate of our position as intelligent and accountable beings in this world, let us briefly consider, *1st*, the general aspect of external nature; and, *2d*, our own constitution.

All geological authorities agree in representing physical nature as having undergone a variety of changes, and having attained to the condition in which it now appears, before Man occupied its surface. Race after race of plants and animals flourished on the earth, and were successively destroyed before man appeared. "It is never pretended," says Mr Lyell, "that our race co-existed with assemblages of animals and plants, of which all or even a large proportion

of the species are extinct."*—(*Principles of Geology*, p. 143, Seventh Edition.)

"In all these various formations," says Dr Buckland, "the coprolites" (or the dung of the saurian reptiles in a fossil state) "form records of warfare waged by successive generations of inhabitants of our planet on one another; and the general law of nature, which bids all to eat and to be eaten in their turn, is shewn to have been co-extensive with animal existence upon our globe, the *carnivora* in each period of the world's history fulfilling their destined office to check excess in the progress of life, and maintain the balance of creation."

The history of the globe appears to shew that it has been constituted by the Divine Author on the principle of progressive advancement; but whether by distinct and successive acts of creation, or by the development of qualities and capacities bestowed by Him on inorganic matter and organic beings, we cannot determine. Great improvements have been effected in different species of vegetables and animals, by human sagacity and attention. "In the absence," says Mr Watson, "of any proper definition of the term *improvement*, we may safely leave it to the general verdict of the public, whether the green-gage plum-tree, with its luscious fruit, is not an improvement upon the austere-berried sloe-bush; whether the pippin and codlin apples are not improvements upon the wild crab; and whether the swift-footed greyhound, the intelligent lapdog, and the powerful mastiff, are not improvements upon any known wild race of dog, wolf, or fox,—for it is doubtful whether the dog has not descended from one or both of the two latter stocks."

* This subject, however, is still involved in great obscurity. Mr Hewett Watson remarks, that "Geology has shewn nothing whatever concerning the creation of races or individuals. Neither the mode of creation, nor the first state, nor yet the last state, of any race or species, has been in the slightest degree explained by geological discovery. The fossil records of past life are limited to incomplete representations of the state of individuals at death; and in the older deposits the remains are scarcely more than mere copies of their shapes. In the more recent deposits, good skeletons, &c., are found; but in all likelihood, the stony models and skeletons which have hitherto met the eye of man, will not bear the proportion of one individual out of every million that have existed. Granting this, how can any sober reasoner assert positively, on such meagre evidence, that intermediate forms and structures have not existed? Geology is far too imperfect yet, to allow of any fair presumption, from its individual facts, either of the transition or non-transition of one species into another. On the great scale, it is as clear as such evidence can make it, that one species has been substituted for another, but we know not how this substitution has been brought about; and, *allowing for the difference of time*, it may well be questioned whether the changes brought to light by geological researches, at all exceed the changes now effected in the vegetable world by human efforts."—*Examination of Mr Scott's Attack, &c.*, p. 23.

Let us now contemplate Man himself, and his adaptation to the external creation. The world was inhabited by living beings, and death and reproduction prevailed before Man appeared. The order of creation seems not to have been changed at his introduction, but he appears to have been adapted to it. He received an organized structure, and animal instincts. He took his station among, yet at the head of, the beings that existed at his creation. Man is, to a certain extent, on a level with the lower animals in his structure, powers, feelings, and desires, and is adapted to a world in which death reigns, and generation succeeds generation. This fact, although so trite and obvious as to appear scarcely worthy of being noticed, is of importance in treating of education; because the human being, in so far as he resembles the inferior creatures, is capable of enjoying a life like theirs; he has pleasure in eating, drinking, sleeping, and exercising his limbs; and one of the greatest obstacles to his improvement is, that many of the race are contented with these enjoyments, and consider it painful to be compelled to seek higher sources of gratification. But to man's animal nature have been added by a bountiful Creator, moral sentiments and a vastly superior endowment of the reflecting faculties, which not only place him above all other creatures on earth, but constitute him a different being from any of them, a rational and accountable creature. These faculties are his highest and his best gifts, and the sources of his purest and intensest pleasures. They lead him directly to those important objects of his existence,—obedience to God, and love to his fellow-men. But this peculiarity attends them, that while his animal faculties, which are necessary for his preservation, act powerfully of themselves, his moral and rational faculties require to be cultivated, exercised, and instructed, before they will yield their full harvest of enjoyment. In regard to them, education becomes of paramount importance.

The Creator has so arranged the external world as to hold forth great inducements to man to cultivate his higher powers, nay almost to constrain him to do so. The philosophic mind, in surveying the world as prepared for the reception of the human race, perceives in external nature a vast assemblage of stupendous powers, too great for the feeble hand of man entirely to control, but kindly subjected within certain limits to the influence of his will. Man is introduced on earth apparently helpless and unprovided for as a homeless stranger; but the soil on which he treads is endowed with a thousand capabilities of production, which re-

quire only to be elicited by his intelligence to make it yield him the richest returns. The impetuous torrent rolls its waters to the main; but as it dashes over the mountain-cliff, the human hand is capable of withdrawing it from its course, and rendering its powers subservient to his will. Ocean extends over half the globe her liquid plain, in which no path appears, and the rude winds oft lift her waters to the sky; but, there the skill of man may launch the strong-knit bark, spread forth the canvas to the gale, and make the trackless deep a highway through the world. In such a state of things, knowledge is truly power; and it is obviously the interest of human beings to become acquainted with the constitution and relations of every object around them, that they may discover its capabilities of ministering to their own advantage. Farther, where these physical energies are too great to be controlled, man has received intelligence by which he may observe their course, and accommodate his conduct to their influence. This capacity of adaptation is a valuable substitute for the power of regulating them by his will. Man cannot arrest the sun in its course, so as to avert the wintry storms, and cause perpetual spring to bloom around him; but, by the proper exercise of his intelligence and corporal energies, he is able to foresee the approach of bleak skies and rude winds, and to place himself in safety from their injurious effects. These powers of controlling nature, and of accommodating his conduct to its course, are the direct results of his rational faculties; and in proportion to their cultivation is his sway extended. Man, while ignorant, is in a helpless condition. But let him put forth his proper human capacities, and he will then find himself invested with the power to rear, to build, to fabricate, and to store up provisions; and, by availing himself of these resources, and accommodating his conduct to the course of nature's laws, he will be able to smile in safety beside the cheerful hearth, when the elements maintain their fiercest war abroad.

Again: We are surrounded by countless beings, inferior and equal to ourselves, whose qualities yield us happiness, or bring upon us bitter evil, according as we affect them agreeably or disagreeably by our conduct. To draw forth their excellencies, and cause them to diffuse joy around us—to avoid touching the harsher springs of their constitution, and exciting painful discord—it is necessary that we should know their nature, and act with a habitual regard to the relations established by the Creator between them and ourselves.

Man, ignorant and uncivilized, is prone to become ferocious, sensual, and superstitious. The external world affords some enjoyments to his animal feelings, but it often confounds his moral and intellectual faculties. Nature exhibits to his mind a mighty chaos of events, and a dread display of power. The chain of causation appears too intricate to be unravelled, and the power too stupendous to be controlled. Order and beauty, indeed, occasionally gleam forth to his eye, from detached portions of creation, and seem to promise happiness and joy; but more frequently, clouds and darkness brood over the scene, and disappoint his fondest expectations. Evil seems so mixed up with good, that he regards it either as a direct product or an inseparable accompaniment of nature's arrangements. Nature is rarely contemplated with a clear perception of its adaptation to the purpose of promoting the enjoyment of man, or with a well-founded confidence in the wisdom and benevolence of its Author. Man, when civilized and illuminated by knowledge, on the other hand, discovers in the objects and occurrences around him a scheme beautifully arranged for the gratification of his whole powers, animal, moral, and intellectual; he recognises in himself the intelligent and accountable subject of an all-bountiful Creator, and in joy and gladness desires to study the Creator's works, to ascertain their laws, and to yield to them a steady and a willing obedience. Without undervaluing the pleasures of his animal nature, he tastes the higher, more refined, and more enduring delights of his moral and intellectual capacities. He then calls aloud for education as indispensable to the full enjoyment of his rational powers.

If this representation of the condition of the human being on earth be correct, we perceive clearly the unspeakable advantage of applying our minds to gain knowledge, and of regulating our conduct according to rules drawn from acquired information. Our constitution and our position equally imply, that the grand object of our existence is, not to remain contented with the pleasures of mere animal life, but to take the dignified and far more delightful station of moral, religious, and rational occupants of this lower world.

Education, then, means the process of acquiring that knowledge of our Creator, of ourselves, and of external nature, and the formation of those habits of religious, moral, and intellectual enterprise and activity, which are indispensable to the evolution of all our faculties, and to the performance of our parts, with intelligence and success, in such a scene as I have described.

These views may appear to many persons to be so clearly

founded in reason, as to require neither proof nor illustration : but there are others who are little familiar with such contemplations, and to whom a few elucidations may be useful. As the latter are precisely those whom I desire to benefit, I solicit permission to enter into a few details, even at the risk of appearing tedious to the more enlightened among my hearers.

To understand correctly the constitution of the human mind, and its need of instruction, it is useful to compare it with that of the inferior animals. The lower creatures are destined to act chiefly from instinct ; and instinct is a tendency to act in a certain way, planted in the animal by the Creator, without its knowing the ultimate design, or the nature of the means by which its aim is to be accomplished. A bee, for example, constructs its cell in conformity with the most rigid principles of mathematical science, according to which it is necessary that the fabric should possess a particular form, and be joined to other cells at a particular angle, in preference to all others, in order to give it the greatest capacity and strength, with the least possible expenditure of material. The creature has no knowledge of the principles of mathematics such as man possesses ; but it acts in accordance with them, by an impulse obviously planted in it by the Author of its being. Man is not directed by unerring impulses like this. Before he could construct a similar fabric with success, it would be necessary for him, by means of observation and experiment, to become acquainted with the nature of the materials to be employed, and to form a clear conception of the mode of adapting them to the accomplishment of his design. A mother, among the inferior animals, is impelled by pure instinct to administer to her offspring that kind of protection, food, and training, which its nature and circumstances require ; and so admirably does she fulfil this duty even at the first call, that human sagacity could not improve, or rather could not at all equal, her treatment. These animals proceed without consciousness of the wisdom displayed in their actions ;—they do not act from knowledge and design. Wherever design appears, there must be intelligence ; yet the wisdom resides not in the animals, but in their Author. The Creator, therefore, in constituting the bee, possessed perfect knowledge of the external circumstances in which he was about to place it, and of its relations, when so placed, to all other creatures and objects ; and conferred on it powers or instincts of action adapted to secure its preservation and enjoyment. Hence, when enlightened men contemplate the habits and powers of animals, and compare

them with their condition, they perceive wisdom and benevolence conspicuously displayed by the Creator.

Man also has received instincts which resemble those of the lower animals, such as the love of sex, of offspring, of society, and of praise, the instinct of resentment, and many others; by the exercise of which, as I have said, he may maintain his purely animal existence, with very little aid from education. But he is distinguished from the inferior creatures, *1st*, By the possession of moral sentiments—such as the love of justice, of piety, of universal happiness, and, *2dly*, By great superiority in the reflecting faculties, fitted to acquire knowledge of the qualities and modes of action of external objects, and of their effects.

These two classes of faculties render man a different being from the inferior creatures. The function of reason being to acquire knowledge of qualities and modes of action and effects, Man is not prompted to follow the most beneficial mode of promoting his own happiness in the direct and unreflecting manner in which the inferior creatures are led to that end. The human female, for example, because she possesses the innate love of offspring, will feel as lively joy at the birth of a child and as warm an attachment towards it, and will as ardently desire its welfare, as the most devoted among the inferior creatures. But, devoid of all instruction and experience, she will not administer towards it the same perfect treatment, with reference to its wants, as the mother in the lower scale; and for this reason, that, in the animal, the instinct is directed to its proper mode of gratification by the Author of Nature: He prompts *her* to do exactly what His wisdom knows to be necessary; whereas, in the human being, the propensity is left to the guidance of reason. Woman is commanded to exert her intellect in studying the physical and mental constitution of herself and her offspring, in order that she may rear it with success while it needs her assistance; and if she shall neglect to perform this duty, she and it may suffer evil in being exposed to the unfavourable influence of external objects and beings, to the action of which, in her state of ignorance, she does not know how to adapt her conduct,

Every day affords examples of the truth of this remark. A young lady, when in infancy, lost both parents; but sufficient property was left to her to enable her to attain what is generally called a good education. She was reared in a fashionable boarding-school, and in due time was respectably married. When her first child was born, she was extremely perplexed. Never having lived where there were infants

in the family, she had had no opportunity of learning *by observation* how to rear such tender beings ; and never having been taught any thing of the structure, or functions, or wants, of the human infant, she possessed no principles by which she could judge of the treatment proper for her child. In her anxiety to do it justice, she asked advice of every female visitor, and was speedily bewildered amidst the incongruous recommendations which she received. Unable to decide for herself, she followed now one method and then another, till in a few weeks the unhappy infant died. This is an extreme case : but an intelligent female friend, who communicated it to me, had no doubt that the child perished through lack of knowledge in the mother.

Many persons are not aware that human feelings are more blind than those of the lower animals, and that they lead to worse results when not directed by reason. They imagine that if they possess a feeling strongly, such as the love of offspring, or the love of God, they cannot err in the mode of gratifying it ; consequently, they act with all the energy of impulse, and all the blindness of infatuation. A mighty change will be effected in human conduct, when the people at large become acquainted with the indispensable necessity of knowledge and reflection to the proper direction of their feelings, and with the fact that knowledge is the grand element without which reason cannot be sufficiently exerted.

Man, therefore, being an improvable being, has been furnished with reason, and been left to discover, by the exercise of it, his own nature, the nature of external objects, and the relations between himself and them, and to adapt the one to the other in this temporal sphere for his own advantage. When he shall do so, and fulfil also his moral and religious duties, he will assume his proper station as a rational being. The only limit to this proposition is, that each of his faculties, bodily and mental, and every external object, has received a definite constitution, and is regulated by precise laws, so that limits have been set to human aberration, and also to human attainments ; but within these limits, a wide scope for producing happiness, by harmonious and wise adaptations, or misery, by discordant and foolish combinations, exists.

I do not predicate *what* degree of perfection man is capable of attaining on earth by these means. Looking at the condition of the inferior animals, I should not expect optimism ; because disease and death are incident to them all : but, on dispassionately comparing the enjoyments of the inferior creatures, in relation to their natures, with the past and pre-

sent enjoyments of the human race, in relation to their superior capacities, I fear that man does not surpass them to the extent which he ought to do, if he made a proper use of the means fairly in his power of promoting his own happiness. Comparing the civilized Christian inhabitants of modern Europe, with the ignorant, ferocious, filthy, and helpless savages of New South Wales, we perceive a vast advance; but I do not believe that the limits of attainable perfection have yet been reached even by the best of Europe's sons. All, therefore, that I venture to hope for is, that man, by the proper employment of the means presented to him, may arrive at last at a condition of enjoyment of his mortal existence, as great, in relation to his rational nature, as that of the lower animals is in relation to their more limited natures. This is no more than saying, that the Creator has made man as perfect as a reasonable being, as He has made the lower animals as instinctive creatures.

If then, man, by his constitution, be an intelligent, moral, religious, and, therefore, an improvable being, but born without knowledge, he must be instructed, and trained to act in harmony with the order of nature, of which he forms a part, as the first stage in his progress towards enjoyment. In other words, he must be educated.

Let us inquire, then, into the present condition of education.

A young man is believed by many to have received a good education when he has been taught reading, writing, arithmetic, Latin, and a smattering of Greek.—Let us endeavour to estimate the true value of these attainments. They appear to be considerable, and I am far from undervaluing them. They are the *instruments*, by the diligent use of which much useful and practical knowledge of nature and her laws may be attained; but in themselves they do not constitute such knowledge. A few observations will suffice to elucidate this proposition.

First, In regard to language in general, and what are termed “the learned languages” in particular, I remark, that we may have an extensive knowledge of objects that exist, and their relations, with only few words by which to express our notions of them. Thus, a self-taught artizan may advance far into the principles and practice of his art, before he has read books and become acquainted with the terms generally used to designate the objects and processes with which he familiarly deals. Such a man would have more ideas than words; and this would be a great evil, for he could not communicate his knowledge, or receive instruction from books.

Other individuals, however, may have more words than ideas, which also would be inconvenient ; for they would have the means of communicating knowledge but lack knowledge to communicate ; they would be great scholars, but could teach mankind no practical art or science.

Words are merely arbitrary signs for expressing feelings and ideas. It is desirable to possess an ample store of useful information, and an equally extensive stock of words ; but it is better to have ten ideas, and only ten words to express them, although all the words should belong to one language, than to have only *one* idea, and *ten* words in as many *different* languages for communicating it. For example, a monk, who has only seen a horse passing by the window of his cell, may know that this animal is named in Greek, ἵππος (hippos) ; in Latin, *equus* ; in English, *a horse* ; in French, *cheval* ; in Italian, *cavallo* ; in German, *pferd* ; and, by some persons, he may be supposed to be highly learned. He is indeed considerably learned, but unfortunately not on the subject of the horse itself, but only on the names by which it is designated in different countries. His stock of real knowledge would be only that which he had picked up by looking at the creature through the window, and would not be in the slightest degree increased by the acquirement of these *six* words to express the *name* of the animal. His original notion of a horse, whatever it was, would continue unextended by all these additions to his knowledge of its names. The person of a man is neither stronger, taller, nor more graceful, because he possesses six suits of clothes, than it would be if he had only one ; and so it is with the mind. A youth, trained in a stable-yard, whose attention had been directed to the various qualities of a good hackney, hunter, or race-horse, would be far superior, as a practical judge of horses, to the monk, although he knew the name of the animal only in his mother tongue. He would excel him in selecting, employing, managing, and rearing horses. He would possess ideas about the animal itself—would know what points were good and what bad about it ; how it would work in different situations ; how it would thrive on particular kinds of food ; and in what manner it should habitually be treated, so as to obtain the most complete development of its natural powers. This is *practical knowledge* : acquaintance with words is *learning*.

Hitherto education has been conducted too much on the principle of looking at the world only from the window of the school-room and the college, and teaching the names of beings and things in a variety of languages, to the neglect of the study of the beings and things themselves ; whereas

man, as a creature destined for action, fitted to control nature to some extent, and, where this is beyond his power, left to accommodate his conduct to its course, requires positive knowledge of things that exist, of their qualities, modes of action, and laws, and has little use for words which go beyond his stock of ideas and emotions.

Language, however, is not to be depreciated or despised. Man is obviously formed to live in society ; his happiness is increased by co-operation and interchange of thought and emotion with his fellows ; and language, oral and written, is his natural medium of communication. It is of great importance, therefore, to every individual, to possess words sufficient to express all his ideas and emotions, and such expertness in using them in speech and writing, as may enable him readily and successfully to convey to other minds the precise impressions existing in his own.

Keeping in view, therefore, that language is of importance as a means of communicating what we know and feel, we may proceed to inquire into the value of Greek and Latin as elements of education. The history of their introduction into schools, and of the circumstances which led to their past high estimation, merits our attention.

The Greeks and Romans were the earliest nations in Europe who attained to civilization ; in other words, they were the first who so far cultivated their mental faculties as to acquire numerous and tolerably precise ideas of government, laws, morals, intellectual philosophy, and the fine arts. In consequence of their minds possessing ideas, their languages contained terms to express them. In the fourth and fifth centuries, the Roman empire was overrun by ignorant barbarians from the North of Europe, whose mental powers, not having been cultivated, had not formed the conceptions now alluded to, and whose languages, in consequence, were as barren as their thoughts. A long night of darkness prevailed over Europe, until at length civilization again dawned where it had last set—in Italy. The cities of that country, situated under a genial climate, and surrounded by a fertile soil, had, as early as the twelfth and thirteenth centuries, made considerable progress in arts and manufactures ; they accumulated wealth, which produced leisure and a desire for refined enjoyment, whence a taste for literature gradually arose.

The manuscripts of Greece and Rome had long slumbered in the cells of monastic institutions. Many of them had been erased to give place to monkish legends ; but now they were ardently disinterred. When recovered and understood, they

were found to convey more sublime and elegant poetry,—more refined yet nervous eloquence,—more brilliant, pointed, and ingenious wit,—with profounder and juster views on the subjects of law, criticism, and philosophy,—than had been known since the subversion of civilization; and all these treasures, too, embodied in languages so rich, discriminative, and refined, that Europe, in addition to this accession of knowledge, was at once furnished with exquisite vehicles of thought, without the labour of invention.

In these circumstances, Greek and Latin naturally became objects of intense interest and study with all men who aspired to superior intelligence. There was great good sense in this direction of their mental energies; because, at that time, and in their situation, these languages really unlocked to them the richest intellectual stores existing in the world, and put them in possession also of media for communicating their thoughts, greatly surpassing, in refinement, copiousness, and power, any that they could have obtained by their own invention, or found in the literature of their native countries.

For these reasons, colleges, schools, bursaries, and other institutions, were established, for teaching and cultivating the Greek and Latin languages, and they obtained the appellation of “humane literature,” *LITERÆ HUMANIORES*; eminence in them became the passport to fame; and a person intimately conversant with them was dignified with the title of “a learned man.”

In the course of time, however, the nations of Europe, aided by the invention of printing, and latterly, by stupendous discoveries in science and the arts, as well as by the wide diffusion of Christianity among the people, far outstripped the Greeks and Romans in their most useful attainments. The Italians, French, English, and Germans, made gigantic strides in knowledge, morality, and religion: and their languages, by a law of the human constitution, kept pace with their emotions and ideas. England could long ago boast of a BACON, a SHAKESPEAR, a MILTON, a NEWTON, and a LOCKE; and she is now able to exhibit an additional list of names, so splendid and extensive as almost to defy repetition, of men who have embodied in her language thoughts and inventions so profound, admirable, and useful, that the philosophy, the science, and the arts, of the ancient world sink into comparative insignificance before them.

This change of circumstances has altered the relative value of Greek and Latin to the English student. There is now no *knowledge* relating to the physical and moral worlds contained in these languages, which does not exist clearly expressed in

English ; and there is no mode of feeling or of thought subservient to the practical purposes of life, that may not be as forcibly and elegantly clothed in our native language as in them. Human institutions and practices, however, often long survive the occasions which gave rise to them ; and from five to seven of the best years of our lives are still dedicated to the study of the learned languages, as if all their original importance remained.

At the time when public schools, such as the High School of Edinburgh and the grammar-schools of the different burghs of Scotland, were instituted, no science existed that could benefit the people. The subjects taught in these seminaries, therefore, were nearly co-extensive with those expounded in the universities. In the primary schools, the pupils were taught the elements of Greek and Latin ; and in the colleges the same studies were prosecuted to the highest point which the time and capacity of the scholar enabled him to reach. In the progress of years, however, arts and sciences have been discovered. In Scotland, the Universities have to some extent kept pace with the growing knowledge of the age. In them, lectures are now delivered on the physical sciences, and on most of the branches of medicine. In short, the knowledge of Nature in all her departments is now taught ; Greek and Latin constituting only departments of the general system of instruction.

If our primary schools had kept pace with this improvement, all would have been well. If we had followed the spirit of practical wisdom manifested by our ancestors, and extended our elementary instruction in proportion to the enlargement of our university education, the knowledge of the people would have been far superior to what it actually is. But, by a strange anomaly, our primary schools have, till within these few years, been allowed to stand still, while the universities have advanced. These schools have continued to teach little else than English, Greek, and Latin ; and the consequences have been baneful. The great mass of the people of the middle and lower ranks, having been taught exclusively at these and the parish schools, have been led to believe languages to be practical knowledge ; and they have been defrauded of the opportunity of acquiring elementary instruction in the arts, sciences, and other departments of useful knowledge. They have wasted in studying—or in attempting to study—Greek and Latin, the only time which their pressing occupations left at their command for obtaining information. They have been sent into the world too

ignorant of the stores of moral and intellectual instruction presented by the works of the Creator.

The higher orders, again, after having spent from five to seven years in what they were led to believe were preparatory studies, have entered the universities and found themselves obliged to commence with the very rudiments of the sciences.

In the great public institutions for the maintenance and education of destitute children, the system of teaching chiefly languages exhibited its fruits in a very tangible form. While children living in the houses of their parents, learned something of real life by intercourse with society, perusing newspapers, and observing passing occurrences, those shut up within the walls of public institutions, and excluded from these sources of information, presented at the end of their education a lamentable spectacle of ignorance. I have been informed, by men engaged in practical business who have received apprentices from such institutions, that the boys, on their entrance into active life, appeared as if they had just dropped from the moon. Every thing was strange to them ; and very little of what had been previously taught to them, was applicable, in their new condition, to useful purposes. What I contend for is, that common sense should be employed in selecting studies for the primary schools as well as in the universities ; and that in these seminaries* the elements of useful knowledge, in addition to languages, should be taught.

In surveying, then, the practice of confining education in primary schools chiefly to languages, we observe that the following consequences ensue. *First*; The intellectual faculties desire *knowledge* as their natural food, and it is only after a considerable stock of ideas has been acquired, and many emotions experienced, that the value of words, as a means of expressing them, can be appreciated. By the common selection of studies, however, little knowledge of *things*

* Since these lectures were written, a great improvement has been introduced into the Regulations of GEORGE HERIOT'S Hospital, in Edinburgh. On 1st November 1832, it was enacted by the Governors, that the branches of Education for the senior boys " shall be such as may be interesting to all these boys, whatever may be their destination in after life ; and among the branches enumerated are, " the first principles of Natural History and Mechanical Philosophy." In October 1836, I saw preparations in progress in GEORGE GORDON'S Hospital in Aberdeen for teaching the elements of natural science to the boys educated in that institution. Similar improvements have taken place in other institutions ; and latterly, the pauper children of the City of Edinburgh, instead of being shut up in the workhouse, have been boarded out in respectable families of the working classes, and trained and educated under their guidance and official superintendence.

is communicated, and children are compelled to proceed at once to learn difficult, copious, and obsolete languages—to burden their memories with words corresponding to which they have no ideas. This course of study being an outrage upon Nature,—tedium, disgust, and suffering, invade the youthful mind. As a means of conquering aversion, severe discipline used to be, and occasionally still is, resorted to: This being felt to be unjust, rouses the lower feelings and debases the higher sentiments,—while the intellect is starved and impaired by dealing habitually with sounds to which no clear conceptions are attached.

Secondly, Under this system, children make no substantial progress in any useful acquirement. Nine out of ten of them drawl away the years of their allotted penance, and within a brief space after its close, forget much of what they had learned with so much labour and pain; and even the tenth, who, from a higher natural talent for languages, perhaps distinguished himself at school, does not, on entering the counting-room or workshop, always find himself as superior to his competitors in practical business as in classical attainments.

If the individual select commerce or manufactures for his occupation for life, the time devoted to the dead languages is to some extent misapplied. Nine-tenths of the children educated in a commercial town do not follow professions for which Greek and Latin are indispensable; and hence the time and money expended, by at least this proportion of pupils, might have been better employed. The habits of mental activity and application which they acquire in contending with the difficulties of these languages, constitute the most valuable results of their instruction. To them the languages themselves are of comparative little utility. Professor Christison, when examined some years ago before the Royal Commission which visited the University of Edinburgh, stated, that at the High School he had been dux of the Greek Class, and at the College had gained a prize for skill in that language, and was naturally fond of it; but that, from the time when he began to study medicine, he found his attention so fully occupied by substantial science, that he had scarcely opened a Greek book: while he had been obliged to study French and German for the sake of the medical information to which they were the means of access.*

* I heard the statement in the text made some few years ago by a friend, and noted it at the time; but, before publishing it, I wrote to Professor Christison, mentioning my desire to ascertain if it were correct, and he kindly sent me the following letter:—

It is an error to suppose that Greek and Latin are indispensably necessary to enable a boy to understand his own lan-

"To GEORGE COMBE, Esq.

"MY DEAR SIR,—The evidence before the University Commissioners was never published, though printed; nor have I seen that part of my evidence to which you refer since the time it was given. But to the best of my recollection, I stated in regard to Greek—very much as you have put it in your letter—that, in my youth, I had cultivated it for about five years, and had made some proficiency in it, being fond of the language; but that I had since found so little occasion to put it to practical use, although pursuing the various branches of my profession as objects of scientific study, that I did not believe I could at that moment translate a single passage of Greek which might be placed before me. Such is certainly still the state of matters with me and my Greek; and I had occasion very lately, in our discussions in the *Senatus Academicus* regarding the propriety of preliminary general education for Doctors of Medicine, to renew my objections to Greek as one of them, in the terms now mentioned. I am almost certain that, in my evidence before the Commission, I also added, that if any other language but Latin were to be required, I should infinitely prefer placing French, and even German too, in our *Statuta*.

"My opinion regarding Greek shortly is, that it is a most desirable branch of literature for imparting general knowledge and cultivation to the mind; but, for direct professional purposes, is of so little consequence, both in itself and likewise as compared with modern languages and the exact sciences, that, considering the great augmentation of the branches of proper medical study in these days, the pursuit of it, as a compulsory measure for medical students, is a mere waste of time and labour.

"Believe me yours very truly,

"R. CHRISTISON.

"November, 23, 1833.

"3 GREAT STUART STREET."

"P.S.—I have no objection to your making any public use of my sentiments which you may desire; for I am sure they coincide with those entertained by most qualified judges whom I have conversed with on the subject; and I am most anxious at the present moment—when the matter of medical education is about to be taken up by Government,—that unprofessional men of common sense be not led away by the natural partiality of classical scholars for their favourite pursuit, or by the recollection, that, in former times, when medicine and the medical sciences were in small compass, and the student had therefore ample time for collateral studies, Greek was naturally enough considered a necessary branch of knowledge, because it was one of the almost indispensable tests of a man of cultivated mind or a learned profession."

I consider the cause of education much benefited by the testimony of Professor Christison in the prefixed letter. It is highly characteristic of that bold, independent, and practical understanding, which has raised him at an early age to a distinguished place in the University of his native city.

While, however, this Lecture was in the press in 1833, a friend sent me the following information:—"It is curious that, at this moment, the *Statuta Solennia* of the University of Edinburgh for the degree of M.D., should for the first time appear in an *English* dress. An adequate knowledge of Latin is still, of course, required; but if the graduate shew that he can easily read Celsus or Cicerone de Natura Deorum, no more is demanded: the great examination goes on in English, and the modest student is no longer perplexed by having to think and speak in a dead language."

guage. This must be the case only where no adequate pains have been bestowed by teachers to convey fully the meaning of English expressions. All words are mere arbitrary sounds; and, in itself, a sound invented by an Englishman is as capable of being rendered intelligible by proper definition, as one first suggested by a Greek or Roman. A great proportion of the words which compose the English language are derived from the Saxon; yet few persons think a knowledge of that language necessary for the due understanding of their native tongue. The grand requisites to the right use of speech are two,—clear notions and accurate definitions of the words employed to express them. The *former* will be best attained by studying *things* and their relations, and the *latter* by a careful exposition of our mother-tongue, by teachers who know scientifically both the things signified and the genius of the language. The derivation of words is not always an index to their true signification; *artery* means literally air-vessel, yet it circulates blood; *physiology* is derived from *φύσις*, nature, and *λογος*, discourse,—yet in English it is used to designate only the doctrine of animal and vegetable functions. In teaching etymology, therefore, we must often guard the student against the errors into which it would lead him; so that the difficulty of his understanding his native tongue, is to that extent increased by his Greek and Latin studies.

Various obvious reasons exist why so little of English is understood by those who learn *it* and no other language or science at school. Owing to the deficiency of their own education, teachers themselves, in general, do not possess distinct knowledge of the things signified by the sounds which they communicate; and, from not understanding the ideas, they have it not in their power to define words accurately. Hence they cannot, and do not, bring together before the minds of their pupils, clear conceptions of the things signified, and of the signs; without the combination of which the right use of speech is impracticable. Further, schoolmasters, in general, communicate only the *sounds of words*, and the *abstract* rules of grammar; but this is not teaching a *language*. Teaching a language implies unfolding its structure, idiom, and powers—a task which requires extensive information and much reflection. *

A professor of English, therefore, would be more useful to nine out of ten of the pupils of any academy for the education of the industrious classes, than professors of Greek and

* Since the text was written, a great improvement has taken place in many schools in the mode of teaching English. In many instances, the principles here recommended have been practically adopted.

Latin; and it should be only after English had been taught in this way, or by some other method, adapted to the human understanding, and without success, that the conclusion should be drawn that it cannot be understood sufficiently for all useful and ornamental purposes, without a previous knowledge of Greek and Latin.

The extensive study of Greek and Latin by learned men, has led to the practice of compounding many new words out of Greek roots; and as Chemistry, Geology, and other branches of Natural History, are advancing with cheering rapidity, multitudes of purely Greek words are added to our language every year, and the uninitiated suffer great inconvenience from not understanding them. This evil, I believe, is to a great extent unavoidable. The things described are new in science, and new names are needed by which to designate them. Uninstructed readers are unacquainted with the *objects*, as well as with their names. If the objects were studied, which can be done only by observation, no difficulty would be found in comprehending the words, although they be derived from Greek and Latin roots. It would be extremely difficult to give to English terms that scientific precision which is attainable by using names compounded of Greek and Latin roots. Explanatory dictionaries, however, of words, common and scientific, borrowed from these languages, have been published; so that no one is compelled to study ancient tongues for six or seven years, for the sake of understanding the derivations of a few hundreds of scientific terms. In a very useful work by Dr R. Harrison Black, entitled "The Student's Manual" (published by Longman and Co.), the Greek roots are printed in the Greek character, and also in the Roman, by which means unlearned readers may become acquainted with the Greek letters, and many common Greek words, almost without an effort.

It has often been observed that the Greeks themselves studied no language except their own, and yet attained to exquisite delicacy and dexterity in the use of it; and why may not the English rival them in this exploit? The objection, that Greek is a primitive, and English a derivative tongue, is met by the answer, that every word is merely a sound indicative of an idea or an emotion; and that it makes no difference in the possibility of comprehending the meaning of it, whether the sound was invented by the English themselves, or borrowed by them from the Greeks or Romans. In learning the meaning of Greek words, the student must connect the thing signified directly with the expression, because he has no etymology to render the Greek intelligible. But if he can comprehend Greek by merely connect-

ing the idea with the word, why may he not learn to understand English by a similar process? It may be added, that some of the most eminent of our English authors, such as Shakespear, Cobbett, Burns, and a whole host of female writers, had little or no acquaintance with the dead languages; and that there are not wanting instances of learned critics, like Bentley, whose classical knowledge did not enable them to express themselves in their native tongue with tolerable correctness, gracefulness, and ease.

We have the testimony of several of the greatest masters in English literature against the existing practice.

"It is deplorable," says Cowley in his *Essays*, "to consider the loss which children make of their time at most schools, employing, or rather casting away, six or seven years in the learning of words only, and that very imperfectly."

Locke, in his *Treatise on Education*, asks: "Would not a Chinese, who took notice of our way of breeding, be apt to imagine that all our young gentlemen were designed to be teachers and professors of the dead languages of foreign countries, and not to be men of business in their own?"

Gibbon the historian remarks, that "a finished scholar may emerge from the head of Westminster or Eton in total ignorance of the business and conversation of English gentlemen in the latter end of the eighteenth century."

Mr Moore, who cites these authorities in his notices of the Life of Lord Byron,* adds, that that gifted poet was a miserable Greek and Latin scholar while he attended Harrow School; that he hated the task of learning these languages; and that he acquired his astonishing copiousness, flexibility, and beauty of style, by extensive miscellaneous reading in his native tongue. Milton says, "Though a linguist should pride himself to have all the tongues that Babel cleft this world into, yet, if he have not studied the *solid things* in them, as well as the words and lexicons, he were nothing so much to be esteemed a learned man as any yeoman or tradesman competently wise in his mother dialect only." And Dr Adam Smith observes, that "it seldom happens that a man, in any part of his life, derives any convenience or advantage from some of the most laborious and troublesome parts of his education."—*Wealth of Nations*, B. v. c. 1.

Education, then, consisting chiefly of languages, leaves

* Vol. i. p. 89, 90. Murray, 1832.

the mind of the pupil ignorant of things, ignorant of men, and ignorant of the constitution of the social system in which he is destined to move. He is trained in abstractions, and among shadows; and when he enters practical life he finds that his real education is only at its commencement.

Education consisting of a knowledge of philosophy and science, on the contrary, produces an early and a deep conviction that man is made for action; that he is placed among agents, which he must direct, or to which he must accommodate his conduct; that everything in the world is regulated by laws instituted by the Creator; that all objects which exist—animate and inanimate—have received definite qualities and constitutions, and that good arises from their proper, and evil from their improper, application. This education makes known what these qualities are. It invigorates the understanding, and gives boldness and independence to the sentiments.

The practical effect of the two modes of instruction must be widely different.

I have heard the practice of teaching the ancient languages as the chief branches of education defended on the ground, that the difficulties which the study of them presents afford an admirable means of training the intellectual faculties to contend with obstacles, and that discipline more than knowledge constitutes the practical value of education. In answer to this argument I observe, that the Creator, in bestowing on us faculties fitted to become acquainted with external nature, and in rendering us happy or miserable in proportion to the extent to which we place ourselves in accordance with his laws, must certainly have adapted these objects to our mental constitution in such a manner that the study of them, while it carries positive advantages in its train, should also beneficially exercise the faculties themselves by means of which it is conducted. Accordingly, it appears to me that the power of observation, on the strength and acuteness of which the talent for practical business greatly depends, will be better disciplined by studying the forms, colours, magnitudes, and arrangements, of the different parts of minerals, earths, metals, salts, plants, and animals, than by learning merely the distinctions between modes, tenses, genders, and cases, in two or three obsolete languages; and that the reflecting faculties will be better trained to vigour by investigating the active phenomena presented by the objects comprehended in the sciences of Chemistry, Natural Philosophy, and Physiology, than by contending with the subtleties of Greek and Roman authors. In the

one case the faculties are employed directly on the objects suited to them in creation ;—in the other, they are occupied with artificial inventions in one particular department of intellect alone. In the one case, every item of knowledge gained, possesses intrinsic value ;—in the other, the ideas acquired are of slender utility beyond the discipline which the study of them affords. The study of nature, then, calls into existence a much greater *amount of thought* than does the study of languages.

It has been said also in defence of Greek and Latin as the substance of education, that these languages become the basis on which a vast fabric of useful knowledge may be reared. The pupils, we are told, are instructed in the geography and history, and in the animal and mineral productions, of the countries in which the events recorded in the ancient classics occurred. This, however, is an acknowledgment that these branches of information are valuable in themselves ; and then the only remaining question is, whether natural science, history, and geography, will be best taught as mere appendages to Greek and Roman literature ; or whether they be not entitled to take the lead, on account of their own inherent excellence, and of their superior adaptation to gratify and improve the mental faculties. Those who maintain that they are not, give the preference to the artificial and abstract products of the human intellect in ages when science was scarcely known, over the ever-enduring and perfect works of the Creator, as strengthening studies for the youthful mind !

Again, it is argued by some person, that in studying science, we acquire a knowledge only of the names of alkalies, acids, earths, salts, minerals, plants, and animals, which, after all, is an exercise of mere verbal memory—a species of parrot-practice calculated to puff up the youthful mind with conceit, and is in itself far less useful than a real acquaintance with the principles of universal grammar, and with the literature of two of the greatest nations of antiquity. The fundamental proposition in this argument is at variance with fact. In a proper course of instruction in science, the pupil is never taught the name of any object, until he shall have been made acquainted with the object itself. And, in regard to strengthening the judgment, it appears to me that an individual who is trained to habits of accurate observation, who learns early that the objects of creation are agents acting and reacting on each other and on himself ; that they operate according to regular laws ; and that man may control, direct, and apply some of them by his own energy and skill, while to the in-

fluence of others he must accommodate his conduct ;—is much better prepared to enter life with a vigorous and disciplined understanding than one who has spent five, six, or seven years chiefly in studying the abstractions, and conquering the difficulties, of the Greek and Roman classics. It is no doubt useful to train the youthful mind to contend with and surmount difficulties ; but these are presented in abundance, and in the most beneficial form, in the study of nature. In exercising the eyes, we would not teach a child to squint, because this is more difficult than looking straight ; and in exercising the legs, we would not direct the pupil to walk chiefly on his tiptoes, because this demands greater vigour in the muscles than walking on the full sole of the foot : yet it would be equally rational to do so, as to select the intricacies of Greek and Latin grammar as mental exercises on account of the difficulties which they present to the understanding. No man seriously engaged in the study of science, ever found his path too flowery, or the obstacles to his progress too few. Yet the difficulties which he encounters are stimulating, because the scheme of creation is adapted to the constitution of his understanding. He feels so greatly benefited and so highly delighted with whatever knowledge he has gained, that the labour of adding to his stores, although severe, is pleasant. He is cheered also by the consciousness that his powers of investigation increase in proportion to his attainments and perseverance.

The greatest evils attending a purely classical education appear to me to be the ignorance in which it leaves the pupil of the objects, agents, and relations existing in nature and social life, and the extent to which, in consequence, his mind is exposed to the influence of prejudice and superstition. A thorough education in natural knowledge, on the other hand, enlarges, invigorates, and humanizes the whole mental powers, wherever they possess native aptitude for improvement.

LECTURE II.

WHAT CONSTITUTES A GOOD EDUCATION ?

The principles which I have hitherto advanced are applicable to all classes of human beings ; but the chief subjects of the present lectures are the education, *1st*, Of the industrious portion of the community, including all who live by their labour and their talents, and do not belong to the learned professions ; and, *2dly*, Of females of every rank, for whom no adequate means of instruction in useful knowledge are, in general, provided.

1. In regard to the education of the industrious classes. They constitute between thirteen and fourteen out of the sixteen millions of people in Great Britain. Our opinions of the kind of education which they should receive, will depend on the objects which we assign to their lives. If they have been created by Providence merely to toil and pay taxes, to eat, sleep, and transmit existence to future generations, a limited education may suffice : but if they have been born with the full faculties of moral, intellectual, and religious beings ; if they are as capable, when instructed, of studying the works of God, of obeying His laws, of loving Him and admiring His institutions, as any class of the community ; in short, if they are rational beings, capable of all the duties, and susceptible of all the enjoyments, which belong to the rational character ; then no education is sufficient for them which leaves any portion of their highest powers waste and unproductive. This is the light in which I regard them ; and the grand question is, What mode of life, and what kind of pursuits, are best adapted to the nature of man ? In answering this question, we must keep in mind, that human nature consists of the following elements :—

1st, An organised body, requiring food, exercise, and rest, in due proportions ;

2d, Animal propensities, requiring gratification ;

3d, Moral sentiments, demanding exercise and enjoyment ;*

4th, Intellectual faculties, calculated to acquire knowledge, and intended to direct the whole voluntary functions, bodily and mental, in the pursuit of their objects.

* The term *moral sentiments*, when used in these lectures, always implies the religious feelings, which I regard as innate.

In the present state of society, the industrious classes, or great mass of the people, live in the habitual infringement of several important laws of their nature. Life with too many of them is spent to so great an extent in labour, that their moral and intellectual powers are stinted of exercise and gratification; and hence their mental enjoyments are chiefly those afforded by the animal propensities: in other words, their existence is too little *rational*; they are organised machines more than moral, religious, and intellectual beings. The chief duty performed by their higher faculties is not to afford predominant sources of enjoyment, but to communicate so much intelligence and honesty, as to enable them to execute their labours with fidelity and skill. I mean no disrespect to this most deserving portion of society: on the contrary, I represent their condition in what appears to me to be its true light, only with a view to excite them to amend it. I speak, of course, of the great body of the uneducated people: There are among the labouring classes many individuals, who possess high attainments.

Does human nature, then, admit of the adoption of such habits and employments by these classes, as will tend to raise them to the condition of beings whose chief pleasures shall be derived from their rational natures?—that is, creatures whose bodily powers and animal propensities shall be subservient to their moral and intellectual faculties, and who shall derive from the latter their leading enjoyments? To attain this end, it would not be necessary that they should *cease to labour*; on the contrary, the necessity of labour to the enjoyment of life is imprinted in strong characters on the structure of man. The osseous, muscular, and nervous systems of the body, all demand exercise as a condition of health; while the digestive and sanguiferous apparatus rapidly fall into disorder if due exertion be neglected. Exercise of the body is labour; and labour directed to a useful purpose is as beneficial to the corporeal organs, and far more pleasing to the mind, than when undertaken for no end but the preservation of health.

Commerce is rendered advantageous by the Creator; because different climates yield different productions. Agriculture, manufactures, and commerce, therefore, are adapted to man's nature, and I am not their enemy. But they are not the *ends* of human existence, even on earth. Labour is beneficial to the whole human economy, and it is a mere delusion to regard it as in itself an evil; but the great principle is, that it must be moderate both in quantity and duration, in order that men may enjoy, and not be oppressed, by it. I say

enjoy it ; because moderate exertion is pleasure, and it has been only labour carried to *excess*, which has given rise to the common opinion, that *retirement* from active industry is the goal of happiness.

It may be objected that a healthy and vigorous man is not oppressed by ten or twelve hours labour a-day ; and I grant that, if he be well fed, his strength may not be so much exhausted by this exertion as to cause him pain. But this is regarding him merely as a working animal. My proposition is, that after ten or twelve hours of muscular exertion a-day, continued for six days in the week, the labourer is not in a fit condition for that active exercise of his religious, moral, and intellectual faculties which becomes him as a rational being. The activity of these powers depends on the condition of the brain and nervous system ; and these organs are exhausted and deadened by too much muscular exertion. The fox-hunter and ploughman fall asleep when they sit and attempt to read or think. The truth of this proposition is demonstrable on physiological principles, and is supported by general experience ; nevertheless, the teachers of mankind have too often neglected it. The first change, therefore, which is to be desired is, to limit the hours of labour, and to dedicate a portion of time daily to the exercise of the mental faculties.

The same means will lead to the realisation of practical Christianity. An individual whose active existence is engrossed by mere bodily labour, or by the pursuits of gain or ambition, lives under the predominance of faculties that do not produce the perfect Christian character. The true practical Christian possesses a vigorous and enlightened intellect, and moral affections glowing with gratitude to God and love to man ; but how can the people at large be enabled to realise this condition of mind, if stimulus for the intellect and the nobler sentiments be excluded by the daily routine of their occupations ?

The uneducated and untrained labourer is not only ignorant, but his mental organs, through want of exercise, are dull, feeble, and incapable of thinking continuously, or acting perseveringly. We may give him instruction, but it does not penetrate into his inactive brain, and it is not reproductive of thought and action.

The middle classes have long since arrived at the conviction, that this country presents to them a theatre for exertion, in which, as a general rule, the prizes of wealth and social consideration fall to the share of those individuals who display the greatest amount of activity, directed by intelli-

gence and morality to useful or pleasing objects. The extraordinary efforts which they make to train up their children in habits of activity and perseverance, shew how deeply they are penetrated by this truth. Their children are sent to school at five or six years of age, and from that age to fifteen or sixteen, in some cases till eighteen or twenty, they are subjected to mental exercises during six or eight hours a-day. It is not so much the knowledge as the habits of mental activity and perseverance acquired by this discipline that enables those children, in after life, to appropriate the prizes to themselves. They do not *rob* the working classes of them, as some persons maintain; because, by the order of Providence, the prizes could not exist unless there were intelligence, powers of combination, capital acquired by industry and accumulated by prudence and economy, to produce them; and it is the superior mental training of the middle classes which enables them to realise these conditions of wealth.

The children of the working classes, in localities where they are not protected by the factory law, or trained by parents who are themselves educated, are too generally sent to labour at the age of eight or nine years, and afterwards their mental faculties receive little or no cultivation. The consequence is, that they are not only ignorant, but, in adult age, they become dull and incapable of intellectual application and moral perseverance. The necessity which poverty imposes on the labouring classes of taking their children too early from school and employing them on labour, appears to me to be the greatest of all the existing obstacles to the elevation of those classes in the social scale. If this opinion be well founded, the best remedy the evil admits of in the present condition of society, appears to be to improve and multiply schools, and to lower the fees of them, so that not only none of the children of the poor may be excluded from them, but that the teaching and training may be so efficient as to render the few years of leisure which are at the command of the children of this class as productive of good habits and intellectual intelligence as possible.

Parents who neglect the education of their children, really renounce for their offspring all right to the prizes offered by Providence to intelligence, industry, and morality, and rivet the chains of dependence about their necks for ever. As already observed, wealth cannot be produced by ignorance and inertness; and without a moderate command of property, independence and social consideration cannot be attained. The labouring classes, therefore, in my opinion, have no alterna-

tive but to qualify themselves, by training and education, to fulfil the conditions on which Providence has made wealth and social well-being to depend, or to submit to poverty and dependence.

There is a large number of working men, particularly in the departments of skilled labour, who are intelligent and moral, and who, when married to prudent and active women, live in comfort, and bring up their children with much respectability. This class will be able to trace their own advantageous position to good natural endowments, strengthened and rendered practical by education, example, or other influences tending to give the ascendancy to their moral and intellectual faculties. If, therefore, they desire, not only to transmit their own condition to their children, but to promote their elevation in the social scale, they will prize well-constituted schools as the best of all means for accomplishing these ends.

The question naturally presents itself—What constitutes a good education ? The answer will be found by attending to the distinction between means and an end. If an architect be employed to build a house, he first prepares a plan, and then calls in the aid of practical workmen, to combine his materials into the proposed erection. The plan is merely a means towards the end. To be able to produce a plan, characterised at once by taste, elegance, and commodious arrangement, the architect must have studied mathematics and drawing. He might invent a design by means of his intellectual faculties, but without some knowledge of mathematics and drawing he could not reduce it into a practical form. The plan itself, however, is still only a methodised outline of the proposed object. Materials must be acquired and combined, in conformity with the design, before a house can be called into existence.

Now, drawing and mathematics are admirable attainments viewed as means towards accomplishing useful or pleasing ends ; but if they produce nothing but *themselves* ; or if they produce only plans, pleasing to the fancy, but not applicable to purposes of utility, they must be viewed as mere ingenious recreations or elegant accomplishments.

What mathematics, drawing, and plans are to practical house-building,—languages, writing, and arithmetic, are to practical business. They are means of acquiring and communicating knowledge. Moreover, knowledge itself, like the plan, is only a means of attaining useful and pleasing ends. Indeed, I might go farther, and say that drawing and mathe-

matics delineate forms and deal with proportions ; whereas language, apart from its applications, is a collection of mere unmeaning arbitrary sounds. To limit the education of an individual who is destined to act the part of a husband, father, and member of society, to reading, writing, accounts, and the dead languages, would be similar to arresting the education of an architect at drawing, mathematics, and designing, without teaching him the kinds, strength, durability, cost, and modes of arrangement of the materials necessary for building. A person who could draw a plan of a handsome cottage, might be incapable of rearing a fabric corresponding to it, if he were defective in all the practical skill, knowledge, and experience, which are indispensable to convert the design into an actual house. For a similar reason, a man may be a distinguished scholar in Greek and Latin without being thereby rendered a practical man of business, if he be not instructed in the knowledge of affairs. As, however, the architect must begin by learning to draw, so the practical member of society should commence his education by studying the means of acquiring practical knowledge ; and I proceed to inquire what these means are.

The English language, writing, and arithmetic, then, are important *means* of acquiring and communicating knowledge. They should be sedulously taught, and by the most approved methods. Algebra and pure mathematics also belong to the class of means. The former embraces only numbers and their relations ; the latter, space and its proportions. The most profound knowledge of these subjects, however, is compatible with extensive ignorance concerning every object, topic, and relation, that does not essentially imply exact proportions of number and space. All languages, likewise, belong to the class of means. In preferring one to another, we should be guided by the principle of utility ;—that language in which most knowledge is contained is most useful. For this reason, French, German, and Italian, appear to me to be more valuable acquirements than Greek and Latin.

One great object of education is the attainment of knowledge itself.

If the season for obtaining real knowledge be dedicated to the study of languages, the individual will enter on active life in a state of qualification for practical business, similar to that of a man for the practice of architecture, who should have completed only his studies in drawing. He will be deficient in many acquirements that would be substantially useful for the preservation of health and the successful conducting

of affairs. He will know nothing about the structure of his own body, and very little about the causes which support it in health, or subject it to disease: he will be very imperfectly informed concerning the constitution of his own mind, and the relations established between himself and other beings: he will not be instructed in any science; know nothing of the principles of trade; be profoundly ignorant of the laws of his country, which he will be called on to obey or even to administer; in short, he will be sent into society with little other preparation than a stock of prejudices gathered from the nursery, and of vague imaginations about the greatness of Greece and Rome, the beauties of classical literature, and the vast superiority of learned pedantry over practical sense.

To discover the evils that arise from this misdirection of education, we have only to advert to the numerous cases of individuals who sap their constitutions, and die in youth or middle age, not from the fury of ungovernable passions which knowledge could not subdue, but from sheer ignorance of the physical conditions necessary to health;—or to the ruined fortunes and broken hearts also referrible to the ignorance of individuals, of their own incapacity for the business in which they have embarked;—of the characters of those with whom they have connected themselves,—of the natural laws which govern production, or of the civil laws which regulate the transactions of men in particular states;—and to ask, how many of these calamities might have been avoided by instruction and by proper discipline of the mind in the fields of observation and reflection?

To understand what constitutes useful and practical knowledge, you are requested to bear in mind the principles which I laid down and illustrated in the first lecture,—that every inanimate object and every living being have received a definite constitution from the Creator, in virtue of which each stands in one or other of two relations towards man:—either its natural qualities are such as he may bend to the purposes of his own enjoyment, or they are too gigantic to be subjected to his control, and he must accommodate his conduct to their sway. Water may be pointed to as an example of the first class: Man, as I formerly observed, may turn the roaring torrent from its course, ere it dashes over the mountain-cliff, and conduct it, as his humble slave, to his mill, where it may be made to grind his corn, weave his cloth, forge his iron, or spin his thread, according to the direction given to it by his skill: or he may enclose water in strong metallic boilers, convert it into steam, and employ its powers to propel his ship, in the

face of the stormy winds and waves, to any wished-for haven : or he may, by the same means, almost fly along fields and meadows on the smooth lines of his artificial railway. But before he can command these high enjoyments, how minute and accurate must be his study of water and the changes which it may be made to undergo, and the latent powers which it may be forced to develop ! how deeply skilled must he become in mechanical philosophy and its applications ! and how complicated and admirable must be his combinations of nature's rude materials !

Wind affords an instance of the powers which man cannot control, but to which he may accommodate his conduct. He cannot guide the air as he does the stream ; but he may give to his mill-house a revolving top, so that let the wind blow from what point it listeth, his sails shall spread their bosoms directly to the breeze. He cannot bid the air measure its motions to suit his objects, according as he wishes to saw the slender pine, or to crush into dust a mass of flint ; but he may spread his canvas to the gale in proportion to the power required, so that the wind, if impetuous, shall press a contracted surface, and, if gently blowing, shall be caught by a broad expanded sail. Man has no power over the direction of the wind on the ocean : but by the skilful adaptation of the helm, masts, and sails, he may steer to his destined haven. How much of observation, how much of skilful combination, and how much of practical adaptation of the powers which man can wield, to those which defy his control, must be put forth before these glorious triumphs of his ingenuity can be accomplished !

These illustrations are of general application. In common life we may never need to forge, to weave, to steer, or to spin ; but we must all prosecute some vocation of usefulness and duty, otherwise we exist in vain. In whatever sphere of life we move, we are encompassed by the elements of nature, which minister to our health and enjoyment, or to our detriment and discomfort, according as we use them wisely or the reverse, according as we adapt our conduct to their real qualities or run counter to their influence. We are surrounded by human beings, and are influenced by the great tides of public affairs ; and without knowledge of external nature, and of the nature of man, his history, laws, and institutions, we shall be no more capable of acting well and wisely our parts through life, than is the mariner of steering successfully without helm, compass, or chart, through the ocean.

If there be any degree of truth in the views now propounded, the question, " What should secular education em-

brace?" may be easily answered. It should embrace instruction in the qualities, modes of action, relations, and purposes of the things and beings by means of which the government of the world is maintained; and also *training* of the whole faculties, animal, moral, and intellectual, to *action* in conformity with the order of Providence,

The particular branches of instruction should be the following :—

READING and WRITING, as the means of acquiring, recording, and communicating knowledge.

ARITHMETIC, ALGEBRA, and GEOMETRY, as instruments of numeration and calculation.

GEOGRAPHY. The object of this science is to describe the natural and artificial boundaries of the different countries of the world, and their sub-divisions; also to enumerate the towns, rivers, lakes, &c., which they contain. With these should be combined a description of the inhabitants, institutions, soil, climate, and produce of each country, and the relations of these to the objects and beings of other countries. Simple descriptive Geography addresses chiefly the intellectual faculties of Form, Size, and Locality: When enriched by the additions now mentioned, the science would interest the feelings and excite the reflecting powers.

NATURAL HISTORY embraces the description of all the objects of the mineral, vegetable, and animal kingdoms. In teaching it, the young should be trained to accurate observation of objects, and of their qualities, relations, and modes of action.

CHEMISTRY. This science expounds the minute composition of natural objects, and the proportions and laws of combination of their parts, with their modes of action. It affords striking examples of design, order, and invariable sequence, in the constitution and modes of action of material objects; and may be used to demonstrate to the young that the material world is actually and practically governed by Divine wisdom.

ANATOMY and PHYSIOLOGY. These sciences unfold the structure, functions, relations and laws of the different parts of which organised bodies are composed. When to these elements of instruction is added information concerning the external circumstances, and also the modes and degrees of action of the organs, which produce health and disease, and the certain connection between infringements of these conditions, and pain and suffering, and eventually premature death; the pupil may be led to comprehend that his health and life are, within certain limits, committed to his own discretion,

and that the Divine power is constantly operating in and through his organs for his advantage and enjoyment, while he acts in conformity with the laws of his constitution.

NATURAL PHILOSOPHY treats of the qualities, relations, and modes and laws of action of bodies, apart from their chemical and vital phenomena. Like chemistry and physiology, it addresses in an especial manner the reflecting intellect of man, and is calculated to expand his mental powers. By increasing his knowledge of the scheme of creation, it puts it in his power, to a certain extent, to co-operate in the plans of Providence for his own improvement.

THE PHILOSOPHY OF MIND. The objects of this science are the external senses, and the internal faculties of emotion, observation, and reflection. It can be studied successfully only by means of reflection on consciousness, and observation of the organs of the several faculties, and the influence of their size, age, health, disease, and training, on the mental manifestations. The mind of man, in so far as he is concerned, forms the centre to which the objects of all the other sciences are related ; and his deepest interest is involved in knowing accurately what these relations are, and how he may regulate his conduct in conformity with them.

LITERATURE, POETRY, PAINTING, SCULPTURE, and all the useful and ornamental arts, find their principles in the constitution of the human faculties, and their relations to the objects of external nature, and cannot be thoroughly and scientifically understood until these are comprehended.

NATURAL RELIGION belongs to Secular Education, and should aim at teaching the young to comprehend that the whole objects and phenomena treated of in the sciences, are the institutions of God ; that the relations of the human mind and body towards them are fixed and unalterable ; that the whole are, to a certain extent, cognisable by the human faculties ; and that we are bound by duty to God, as well by a regard to our own welfare, reverently and diligently to study these, and to regulate our own conduct in conformity to their modes of action. Above all, the pupil should be *trained habitually to act* on the knowledge thus communicated to him.*

I do not mean that all the arts and sciences should be taught to every child, in the manner and to the extent in which they are now expounded in our universities and higher seminaries of education. For the industrious portions of the people, it is not necessary to teach these sciences in mi-

* See Pamphlet on the question "What should Secular Education Embrace?" p. 31.

nute detail. Elementary instruction, by means of primary schools, and, at a later age, by popular lectures elucidating their leading principles and applications, would be of incalculable benefit. In many of the United States of North America, the country is divided into school districts, and taxed for the support of schools, which, under the management of committees chosen by the rate-payers, provide education for the children of the whole people, free of farther expense.* In Lancashire, in England, a "Plan" for providing secular education to the people, similar to that adopted in the United States, is now (1848) engaging public attention. Prussia also has set a noble example to Europe on the subject of education. In Prussia,† as in Germany generally, it is obligatory on all parents to send their children to school from the age of seven to fourteen, beginning earlier if they choose; and the duty is enforced by penalties. Each parish is bound to support an elementary school; each considerable town, a burgh school for the more advanced studies; each considerable district, a gymnasium for classical studies; and each province has its university. The parish school is supported by the parish, and for its management all the landholders and heads of families are formed into a union, which appoints a committee to inspect and watch over the school. The system of instruction is prescribed by authority, and is nearly uniform for the whole monarchy. It embraces, in the *elementary* schools, 1. Religion and morals; 2. The German tongue; 3. Elements of geometry and drawing; 4. Arithmetic, pure and applied; 5. The elements of physics (meaning chemistry and natural philosophy), general history, and the history of Prussia; 6. Singing; 7. Writing; 8. Gymnastic exercises; 9. "The more simple manual labours," by which seems to be meant the use of tools employed in the most common occupations, such as the spade, pick-axe, saw, plane, file, trowel, stone-chisel, &c. The burgher school embraces the same branches carried farther, with the addition of a little Latin, the study of which is not, however, universally enforced. The instruction is not gratuitous, except to the poor. The provision to be made by the parish embraces, 1*st*, A salary to the schoolmaster, with a retired allowance for him in old age; 2*d*, A schoolhouse, well aired and heated; 3*d*, Books, maps, models for drawing, collections in natural history, gymnastic apparatus, &c.; 4*th*, Aid to poor scholars. The fund is raised by contributions, levied on the inhabitants according to the amount of their property or the produce of

* See Article on "Education in America," in the *Edinburgh Review*, No. 148, July 1841.

† *Edinburgh Review*, No. 116.

their industry, and by moderate fees, which are not paid to the schoolmaster, but to the parochial managers. There are cantonal courts, and inspectors, who control and inspect all the schools in a canton; others for departments, with a wider authority; others, with still more extensive powers, for the provinces; and, above all, there is the minister of public instruction. In all the courts, councils, or commissions, exercising authority over the schools of any class, there are a few of the clergy,—Protestant and Catholic being admitted according as the scholars belong to the one or the other church: and great care is taken to prevent the slightest offence being offered to the religious feelings of any party. The choice of the books in the elementary schools is left to the local committees. There are half-yearly examinations; and the boys leaving school obtain certificates of their capacity and their moral and religious dispositions, which must be produced when they go to the communion, or enter into apprenticeship or service. The Prussian plan embraces also what are of essential importance, schools for training persons to act as teachers. There are thirty-four of these seminaries, where, besides studying the different branches of knowledge to be taught, the pupils learn also the art of instruction.

A similar system of education is pursued in the boarding-schools of Germany. The following letter, written by a young gentleman who is personally known to me, and who, after studying at the High School of Edinburgh, went to Cassel and Göttingen, is lively and instructive.

“In Germany, as in England, boarding-schools are the principal seminaries of education, day-schools like those which we have in Edinburgh, being seldom if ever met with. These boarding-schools are attended, not only by the boys who reside with the teacher, but also by what are called day-boarders; and masters for drawing, dancing, music, and other ornamental and useful accomplishments, teach at stated hours, as in similar establishments in this country. There are in Germany no such institutions as our High School, where almost nothing but Latin is taught; and indeed no one thinks of learning Latin, except those who are intended for the learned professions, and who absolutely require a knowledge of it. Thus, boys in general, instead of spending five or six years in a state of misery, are enabled to acquire an extensive stock of useful and practical information.

“In German boarding-schools, natural history is a prominent object of pursuit, and the boys are instructed in the outlines of zoology, ornithology, entomology, and mineralogy. This, I believe, is a branch of education never taught in

seminaries of the same description in Britain ; but it is devoured by the learners on the Continent with the utmost avidity. There, the teacher is not an object of fear, but the friend of his pupils. He takes them, about once a fortnight, to visit some manufactory in the neighbourhood, where they are generally received with kindness, and are conveyed through the whole building by the owners, who seem to have pleasure in pointing out the uses of the various parts of the machinery, and in explaining to their juvenile visitors the different operations which are carried on. Suppose, for example, that an expedition is undertaken to a paper-mill : the boys begin their scrutiny by inspecting the rags in the condition in which they are first brought in ; then they are made to remark the processes of cutting them, of forming the paste, of sizing the paper, &c., with the machinery by which all this is executed. On their return, they are required to write out an account of the manufactory, of the operations performed in it, and of the manufactured article.

“ During the summer months, pedestrian excursions are undertaken, extending to a period of perhaps two, three, or four weeks. Everything worthy of attention is pointed out to the boys as they go along ; and deviations are made on all sides, for the purpose of inspecting every manufactory, old castle, and other remarkable object in the neighbourhood. Minerals, plants, and insects, are collected as they proceed, and thus they early begin to appreciate and enjoy the beauties of external nature. If they happen to be travelling in the mountainous districts of the Harts, they descend into the mines, and see the methods of excavating the ore, working the shafts, and ventilating and draining the mine. Ascending again to the surface, they become acquainted with the machinery by which the minerals are brought up, the processes of separating the ore from the sulphur and the silver from the lead, and the mode in which the former metal is coined into money.

“ Having become familiar with these operations, the boys next, perhaps, visit the iron-works ; and here a new scene of gratification is opened up to their faculties. The furnaces, the principles of the different kinds of bellows, the method of casting the iron and forming the moulds,—everything, in short, is presented to their senses, and fully expounded to them. In like manner they are taken to the salt-works, and manufactories of porcelain, glass, acids, alkalies, and other chemical bodies, with which that part of Germany abounds. If any mineral springs be in the neighbourhood, these are visited, and the nature and properties of the water explained.

In short, no opportunity is neglected, by which additions to their knowledge may be made. In this way, I may say without exaggeration, they acquire, in the course of a single forenoon, a greater amount of useful, practical, and entertaining knowledge, than they could obtain in six months at a grammar-school. For my own part, at least, I learned more in one year at Cassel, than during the five preceding which were spent in Edinburgh. This knowledge, too, is of a kind that remains indelibly written on the memory, and that is often recalled in after life, with pleasure and satisfaction. How different were my feelings, when thus employed, from those which tormented me in that place of misery, the High School of Edinburgh !*

"These journeys not only have a beneficial effect on the mind, but also conduce, in no small degree, to the growth and consolidation of the body. They are performed by short and easy stages, so as not to occasion fatigue.

"On their return home, the boys write an account of their travels, in which they describe the nature of the country through which they have passed, and its various productions, minerals, and manufactures. This is corrected and improved by the teacher. The minerals and plants which have been collected, serve at school to illustrate the lessons. The boys likewise go through a regular course of study, and receive lessons on Religion, Geography, French, and the Elements of Geometry. They are taught also the Elements of Astronomy ; not merely the abstract particulars generally given in courses of geography in this country, relative to the moon's distance, the diameter and period of revolution of the earth, and the like, but also the relative positions of the principal constellations. The figures of cubes, cones, octagons, pyramids, and other geometrical figures, are impressed upon the minds of the junior boys, by pieces of wood, cut into the proper shapes. Latin is taught to those who particularly desire it. Poles

* This letter was inserted in No. XXX. of the Phrenological Journal, and the Editor (not myself) here subjoins the following note : " Our correspondent's language is strong ; but as we know it to be nothing more than the expression of honest and heartfelt indignation, we have allowed it to remain unmodified. We ourselves can never forget the *tædium vitæ* which attended us, during the lingering years in which we made a strenuous but unsuccessful attempt to overcome the difficulties of Latin Syntax at the High School of Edinburgh. Often did we envy the condition of boys who laboured in the field for a scanty subsistence, but whose minds were free from the intolerable and spirit-breaking *incubus* of Latin grammar." It is proper to add, that, in another seminary and at college, the writer of this note subsequently attained considerable proficiency in classical literature, and is an admirer of it : circumstances, however, which do not prevent him from concurring in the views expressed in these lectures regarding classical education.

are erected in the garden for gymnastics, and the boys receive every encouragement to take muscular exercise.

"Now, this method of education seems to me—indeed I know experimentally that it *is*—so vastly superior to that which is in vogue in Edinburgh, that I can never cease to wonder that the barbarisms of the dark ages should still be allowed to exert their influence among us. In Germany, the boys enter the schools which I have described, at the age of eight or nine, and leave them when about fourteen or fifteen, at which period those intended for the learned professions enter the lyceums, preparatory to enrolling their names at the universities. Now, whether is it more rational for a boy, at that period of life, to consume his valuable time in the dreary halls of the High School,* in acquiring scarcely one useful idea, or to employ it in the pursuit of substantial knowledge? For my own part, I shall always look back on the time which I spent in obtaining a superficial acquaintance with the Latin tongue as a hideous blank in my existence."

In this country we have not enjoyed the preparatory training which fits the poorest peasant in Prussia for relishing instruction in the higher branches of science; and not only has education in useful knowledge been neglected, but prejudices are entertained by many excellent persons against it. Dr Drummond† has furnished an admirable answer to this objection. The passage is long, but its excellence is my apology for introducing it.

"You will, perhaps," says he, "treat the idea of teaching matters of science to people generally as chimerical; but be not over hasty. It is still too common a persuasion that knowledge should be a monopoly, belonging solely to the learned and highly educated; but there is a vast fund of information of the very highest value, which can be understood by persons who have had but little previous tutoring, either in school or university. There is a vast mass of knowledge which admits of easy explanation, and which could be comprehended by men of the most moderate education; and why is it withheld from them? Is the sun still to shine in the heavens, the planets to roll on in their orbits, the comets to shoot beyond imagination's wing into the regions of space,

* Since the publication of the first edition of these lectures, the course of education given at the High School of Edinburgh has been improved; but still too little provision is made in it by the Patrons for teaching the elements of physical science.

† See the excellent and eloquent "Letters to a Young Naturalist on the Study of Nature and Natural Theology. By James L. Drummond, M.D.," &c. Longman & Co., London, 12mo, pp. 342.

and the constellations to sparkle for ever on the canopy of night ; and yet our brethren of the human race, a very small portion excepted, to know no more about them than merely that they are the sun and stars ?

“ Will it be said that the great truths of astronomy can only be made plain to the understandings of those who are profound mathematicians and philosophers ? There are lengths in every science, indeed, which can only be gained by long and deep study ; but although it required a Newton to unfold the mystery of the planetary motions, as guided and controlled by the law of gravitation, still these motions, and most of the sublime facts of astronomy, can be comprehended by the bulk of the people, from plain illustrations, given in plain and perspicuous language. But of this, and of nature in general, they are kept in deep ignorance. Simple truths, when simply explained, are more easily comprehended, I believe, than is commonly supposed ; and I feel satisfied that the task of teaching mankind in general such solid and various knowledge as would tend most powerfully to advance both civilization and morality, is any thing but hopeless. Knowledge has been truly said by Bacon to be power ; and with equal, at least, if not greater truth, it may be asserted, that, when pursued with a reference to the God of all knowledge, it is virtue.”—“ There is no limit to the study of the Almighty in his works. All nature, from the north to the south, and from the east to the west, offers examples innumerable of the power and wisdom with which he works throughout the visible world before us. In the heavens we find suns the centre of systems, and an endless series of rolling worlds ; and when we descend from the consideration of suns and systems,—of stars wheeling in their orbits with a velocity quicker than thought,—of worlds, compared with which the globe we inhabit is in magnitude as a mole-hill,—how delightful is it to find, that on this ball, insignificant as it is in comparison with thousands of the heavenly orbs, the God of all displays himself in characters not less strong, to the inquiring mind, than in the boundless ocean of space that holds the sun and stars !

“ Let us consider an *insect*, or let us study the laws which *direct a planet* ; let us contemplate the *solar system*, or inquire into the history of an *ant-hill* or a *honey-comb* ; the mind, the truly *valuable* portion of the compound called Man, recognises in the vast, as well as in the minute, and *vice versa*, the master Mind, the God, the omnipotent power—express it by what name we will—which formed and which governs the mighty whole, in all its magnitudes, in all its minima.

Paley observes in his *Natural Theology*,—a work which I can never too highly recommend to your notice,—that ‘the works of nature want only to be contemplated. When contemplated, they have everything in them which can astonish by their greatness: for, of the vast scale of operation through which our discoveries carry us, at one end we see an Intelligent Power arranging *planetary systems*—fixing, for instance, the trajectory of *Saturn*, or constructing a ring of 200,000 miles diameter, to surround his body, and be suspended like a magnificent arch over the heads of his inhabitants; and, at the other, bending a *hooked tooth*, concerting and providing an appropriate mechanism for the clasping and reclasping of the filaments of the feather of the humming-bird! We have proof, not only of both these works proceeding from an intelligent agent, but of their proceeding from the same agent: for, in the first place, we can trace an identity of plan, a connection of system, from *Saturn* to our own globe; and when arrived upon our globe, we can, in the second place, pursue the connection through all the organised, especially the animated, bodies which it supports. We can observe marks of a common relation, as well to one another, as to the elements of which their habitation is composed. Therefore, one mind hath planned, or at least hath prescribed, a general plan for all these productions. One Being has been concerned in all.’”

Knowledge of man himself, his mental endowments, his history, and his institutions, belongs to the class of useful information. As already mentioned, a useful education should embrace instruction in mental philosophy, geography, civil history, political economy, and religion. A genius or taste for poetry, music, painting, sculpture, or languages, is bestowed by nature on particular individuals, and these branches of knowledge should be taught to those who have an aptitude for them. They are of much value as means of elevating and refining human nature; but unless there be in the mind a decided talent for them, they should not be made the great objects of education, or the business of life. I request you particularly to observe, that I do not denounce the ancient languages and classical literature on their own account, or desire to see them cast into utter oblivion. I admit them to be refined studies, and think that there are individuals who, having a natural turn for them, learn them easily, and enjoy them much. They ought, therefore, to be cultivated by all such persons. My objection is solely to the practice of rendering them the main substance of the education bestowed on young men who have no taste or talent for them, and

whose pursuit in life will not render a knowledge of them a valuable acquisition. The fine arts, also, should be taught as enjoyments, and a relish for them encouraged; but in common minds a considerable amount of moral and intellectual cultivation must *precede* their due appreciation.

Farther, as long as the present institutions of society exist, some knowledge of Greek and Latin is indispensable to young men who mean to pursue medicine or law, as a profession. Of course, Greek must be studied by divines.

The importance of teaching knowledge is evident; but the necessity for *training* is less understood. It arises from the dependence of the mind, in this world, on physical organisation for its powers of acting. The brain is the material instrument by means of which the mind acts, and it consists of a variety of parts, each connected with a special mental power. It is subject to the same organic laws as the other parts of the body. If we should confine a man for the first twenty years of his life in a dungeon, without exercise and employment, we should find, on bringing him into the active world of light and life, that he could not see distinctly, could not judge correctly of the distance of objects by their sounds, could not walk steadily, and scarcely could make any exertion with his arms and hands. The cause of his defects would be found in the circumstance, that his organic structure had been left feeble and undeveloped through want of exercise; and that his various senses and muscles (which, although distinct in themselves, are all framed to co-operate and assist in prosecuting general aims) had never been accustomed to act in combination. Such a being, when first introduced into active life, would be helpless, bewildered, and unhappy.

There is, therefore, a vast difference between instruction and training; and education should embrace both. Instruction means communicating knowledge; while training implies the repetition of certain modes of action in the mind and body until they have become habits. It is a law of our constitution that any organ, when accustomed to repeat frequently its action, acquires additional strength and facility in doing so; and the force and advantages of habit arise from this law. If we merely tell a pupil how to point his toes, and place his feet, and what series of movements to execute, this is *instructing* him in dancing; but it is not *training* him to the practice of the art. To accomplish the latter object, we must teach him actively to dance; and the more frequently we cause him to repeat certain movements, short of occasioning fatigue, the more expert will he become in performing

them. In like manner, mere information concerning natural objects, their agencies, and relations, is instruction; while accustoming children to observe, to discriminate, to arrange, to operate, and to reason for themselves, is *training* their understandings.

Teaching a child to repeat the precepts and doctrines of the New Testament is *instructing* him in religion and morality; but he is not *trained* to religion and morality until he shall have been accustomed to practise these precepts in his daily conduct.*

The Scripture says, *Train* up a child in the way in which he should go, and when he is old he will not depart from it; but it does not promise the same result from merely *instructing* him: In this respect scripture and nature completely agree.†

* In the Normal School of the Free Church of Glasgow, *training* is practically employed with the happiest effects. An excellent exposition of the method adopted in that seminary is given by David Stow, Esq., in his work on "The Training System."

† Since the first edition of these Lectures was published, several high authorities in classical literature have admitted the inexpediency of wasting from four to six years of the time of young men destined to merchandise or manufacture in studying Greek and Latin. Professor Pillans says:—

"The strongest case against the advocates for classical education, is the practice that has hitherto prevailed of making it so general, as to include boys of whom it is known beforehand that they are to engage in the ordinary pursuits of trade and commerce; who are not intended to prosecute their education farther than school, and are not therefore likely to follow out the subject of their previous studies much, or at all, beyond the period of their attendance here.

"I willingly allow, and have already admitted, that a youth who looks forward from the very outset to the practice of some mechanical or even purely scientific art, may employ his time better, in acquiring manual dexterity and mathematical knowledge, than in making himself perfectly acquainted with a dead language. There must be in all very large and populous towns, a class of persons in tolerably easy circumstances, and whose daily business affords them considerable leisure, but who contemplate for their children nothing beyond such acquirements as shall enable them to follow out the gainful occupation, and move in the narrow circle, in which they themselves, and their fathers before them, have spent a quiet and inoffensive life. It was for youth of this sort that the Prussian government, with a sagacity and foresight characteristic of all its educational proceedings, provided what are called *burger* and *mittel-schulen*,—intermediate steps between the *volks-schulen*, or primary schools, and the *Gymnasia*, or *gelehrte-schulen*; and the French have wisely followed the example of Prussia, by ordaining the establishment of *ecoles moyennes*, called also *ecoles primaires superieures*, in all towns above a certain population."—*Three Lectures on the Proper Objects and Method of Education, &c.*, by James Pillans, M.A., F.R.S.E., &c., 1836.

The Edinburgh Review, in commending Professor Pillans's Lectures, says, "Nothing has more contributed in this country to disparage the cause of classical education than the rendering it the education of all. That to many this education can be of little or no advantage, is a truth too manifest to be denied; and on this admission the sophism is natural, to convert 'useless to many' into

It is by training alone that moral and religious instruction can be rendered practically efficacious in regulating conduct. Other conditions being equal, the human faculties act with a degree of energy corresponding to the size of their organs ; and the organs of the animal propensities are generally large. They are, therefore, naturally powerful ; and not only so, but the circumstances of life present to them constant and powerful excitements. They are thus *trained* from infancy by our position and the influence of surrounding objects to activity, without the need of artificial culture. This is well ordered by the Creator, because the activity of the propensities is necessary to our subsistence, preservation, and defence, as individuals and as domestic beings. But the moral and intellectual organs, in most individuals, when combined, although equal or superior in size to those of the propensities, stand more in need of artificial cultivation. Their function is to control and direct the animal feelings and desires, and they need to be instructed and strengthened themselves to fit them to accomplish this duty. Instruction should be communicated by directly addressing and exercising the intellectual faculties, and training them to deal with their own objects. Children should be taught to examine every object minutely, and to mark its hardness or softness, its solidity, its form, size, weight, colour, the number of its parts, its place of growth or production, its liability to suffer change from the influence of other objects, and its powers of producing changes in them. They should be taught to try experiments and note the consequences, and be trained to perceive and comprehend that life is a series of processes, each of which has an inevitable consequence of good or evil attached to it, which they cannot alter or evade, but to which they may, within certain limits, accommodate their own conduct and position. This would constitute training of the intellectual faculties.

The moral and religious faculties also, are best trained by presenting to them their natural objects, and engaging them in active emotion. When a child is led to relieve suffering, to do a kind or courteous action, its benevolence is brought into activity. When it is engaged in contemplation of God's power, wisdom, and goodness, and taught to yield obedience to His will, and to obey His laws, its veneration is cultivated. When it is called on to scrutinise and try its own actions

' useful to none. With us the learned languages are at once taught too extensively, and not extensively enough,—an absurdity in which we are now left almost alone in Europe.'—No. 129, vol. lxiv., p. 123.

and those of others by the standard of justice, and to pronounce a sentence of approval or condemnation, its conscientiousness is strengthened. When beautiful objects and dulcet sounds are presented, and the child is taught to reproduce the like, its faculties of ideality, time, and tune, are trained, and so forth. It is only by a thorough enlightenment of the intellect, and a practical training of the moral and religious sentiments that these faculties can be enabled steadily and in all emergencies to control and direct the animal propensities.

It is in society that the objects and excitements necessary for training the moral and religious faculties are chiefly found. We cannot be benevolent unless there be animated beings to benefit by our kindness, nor meritoriously just, unless in presence of individuals whose rights conflict with our own desires. The play-ground and the domestic social circles, therefore, are the spheres in which our moral and religious principles should be reduced to practice; and it is only by the constant exercise of them there that they can be trained and invigorated to accomplish the objects for which they were bestowed.

Suppose, then, knowledge to be obtained, we may inquire into its uses. One great use of knowledge is the preservation of health. This, although too much overlooked in many of the established systems of education, is of paramount importance. Life depends on it, and also the power of exercising with effect all the mental functions. There are two modes of instructing an individual in the preservation of health; the one by informing him, as a matter of fact, concerning the conditions on which it depends, and admonishing him, by way of precept, to observe them;—the other, by expounding to his intellect the constitution of his bodily frame, and teaching him the uses of its various parts, the abuses of them, the relations established between them and external objects, such as food, air, water, heat, and cold, and the consequences of observance or neglect of these relations. The former method addresses the memory chiefly; the latter the judgment. The former comes home to the mind, enforced only by the authority of the teacher; the latter is felt to be an exposition of the system of nature, and deeply interests at once the intellect and affections. The former affords rules for particular cases; the latter general principles, which the mind can apply in all emergencies.

The instruction here recommended implies an exposition of the principles of anatomy and physiology.

Another use of knowledge is to enable us to exercise the

mental faculties themselves, so as to render them vivacious and vigorous, and thereby to promote our usefulness and enjoyment.

The wonderful effect of a change from inactivity to bustle and employment is well known in ordinary life, and is explicable only on the principle of strengthening the organs by a due amount of exercise. In nine cases out of ten, a visit to a watering-place, or a journey through an interesting country, restores health more by giving excitement to the mind than by means of the water swallowed, or the locomotion endured. And it is well known that, under strong excitement, weak and delicate persons will not only exert double muscular force, but even prove superior to the effects of miasma and contagion, to which, when unexcited, they would have been the first victims. In the army also, it is proverbial, that the time of fatigue and danger is not the time of disease. It is in the inactive and listless months of a campaign, that crowds of patients pass to the hospitals. In the former cases, it is active exercise, giving strength to the mind, and, through it, healthy vigour to the body, which produces the effect.

Now, instruction in natural science connects our sympathies with real existences and living beings,—furnishes our understandings with positive and precise ideas, and brings home to our minds an irresistible conviction of our being placed in the midst of agents, physical, animal, moral, and intellectual, to whose qualities we must adapt our conduct, if we desire to enjoy life. It furnishes us with the means not only of planning useful occupations, but of executing our designs; and in such courses of action there is the highest enjoyment.

A third use of knowledge is to qualify us to perform our duties, physical, moral, and religious, in the best manner, and to reap the fullest enjoyment which providence allots to those who best fulfil the objects of their existence, and yield the most perfect obedience to the Divine laws. In a pamphlet entitled, “What should Secular Education Embrace?” I have endeavoured to shew that a knowledge of the qualities, relations, and modes of action of inorganic objects and organic beings, is a knowledge of the order of God’s secular providence in the government of the world; and if this conclusion be sound, it follows that it is only by diligent study of the order of nature that we shall learn how to accommodate our conduct to the Divine laws, which regulate prosperity and adversity, health and disease, life and death, in the present state of existence.

In consequence of profound ignorance, man, in all ages, has been directed in his pursuits chiefly by the impulses of his strongest propensities, at one time to war and conquest, at another to animal pleasure, and at a third to accumulating wealth, without having framed his habits and institutions in conformity with correct and enlightened views of his own nature, and its real interests and wants. Down to the present day the mass of the people, unfavourably situated for the development of their rational nature, have remained essentially ignorant, and liable to become the tools of interested leaders, or the victims of their own blind impulses. They constitute the great majority of the nation, and of necessity their condition influences that of the rest. But the arts and sciences are now tending towards abridging human labour, and promise to furnish leisure to the people; the elements of useful knowledge are rapidly increasing; the capacity of the operatives for instruction is generally recognised, and the means of communicating it are becoming more abundant; so that a new era may fairly be considered as having commenced.

It has sometimes appeared to me that divines, with the best intentions, have obstructed the progress of human improvement by colouring too highly the representations of man's depravity and weakness, and urging in too strong terms his natural incapacity for any good. These views repress exertion, and foster indolence and ignorance. Dr Chalmers entertained more favourable opinions of our nature, and I rejoice in calling your attention to the eloquence as well as the truth of the following remarks. "We might not know the reason," says he, in his *Bridgewater Treatise*, "why, in the moral world, so many ages of darkness and depravity should have been permitted to pass by, any more than we know the reason why, in the natural world, the trees of a forest, instead of starting all at once into the full efflorescence and stateliness of their manhood, have to make their slow and laborious advancement to maturity, cradled in storms, and alternately drooping or expanding with the vicissitudes of the seasons. But though unable to scan all the cycles either of the moral or natural economy, yet we may recognise such influences at work, as, when multiplied and developed to the uttermost, are abundantly capable of regenerating the world. One of the likeliest of these influences is the power of education, to the perfecting of which so many minds are earnestly directed at this moment, and for the general acceptance of which in society, we have a guarantee

in the strongest affections and fondest wishes of the fathers and mothers of families." (Vol. i., p. 186.)

Add to these reasons for hoping well of our nature, the discovery, that the *capacity* for civilisation may be increased by exercising the moral and intellectual faculties, in conformity with the laws of organisation ; a fact which Phrenology brings to light,* and from which the happiest results may be anticipated in regard to human improvement. History represents man as having been hitherto a passionate, pugnacious, grasping, and ambitious, rather than a moral and rational, being ; and even now we do not feel entirely secure against a recurrence of rapine and war. Yet fighting and plundering are calculated to gratify only a few of the human faculties, and these the lowest in the scale ; while they outrage the higher and better feelings. In proportion as the knowledge of our true good, and of the real relations of our nature to our fellow-men, and the external world, shall increase, it will be seen that prosperity and enjoyment spring only from industry and virtue, and we may hope that the appetite for war will diminish.

The objection has been stated, that, even in the most improved condition of the great body of the people, there will still be a considerable proportion of them so deficient in talent, so incapable of improvement, and so ignorant, that their labour will be worth little ; that, as they must obtain subsistence, no alternative will be left to them but to compensate by protracted hours of exertion for their deficiencies in skill ; and that their labour, furnished at a cheap rate, will affect all other classes of society, and prevent the anticipations now stated from ever being realised. This objection resolves itself into the proposition, That the people have been destined by the Creator to be mere labouring animals, and that, from their inherent mental defects, they are incapable generally of being raised to any more honourable station ; which is just the great point at issue between the old and the new philosophy. If mankind at large (for the industrious classes constitute so very great a majority of the race, that I may be allowed to speak of them as the whole) had been intended to continue for ever mere hewers of wood and drawers of water, it is probable that moral and intellectual faculties would not have been bestowed on them ; and as even

* The power of manifesting the mental faculties augments in proportion to every increase in the size, and improvement in the constitution, of the organs by means of which they act : and exercise of these organs has a tendency both to enlarge their volume and to exalt their quality.

the humblest individuals enjoy the rudiments of all the feelings and capacities which adorn the highest, and as these faculties themselves are capable of improvement, I do not subscribe to the doctrine of the permanent incapacity of the race. I consider them quite capable of becoming qualified, in successive generations, to perform the duties and to reap the enjoyments of rational beings; and whenever the great majority of them shall have received a thoroughly good education, and a proper moral training, and have thereby acquired a sense of the true dignity of their nature, and a relish for the enjoyments afforded by their higher faculties, they will be found capable of regulating the supply of labour in reference to the demand, in such a manner as to obtain the means of subsistence in return for moderate exertion. I regard it as probable, that then few of the imbeciles alluded to in the objection will exist; and that these few will be kept in the right path by the influence of enlightened opinion which will then pervade the social circle.

At the same time, in reference to the present and several succeeding generations, there is great force in the objection now stated. In throwing out the views contained in these lectures, I embrace centuries of time. I see the slow progress of the human race in the past, and do not anticipate miracles in the future. If a sound principle, however, be developed—one having its roots in nature—there is a certainty that it will wax strong and bear fruit in due season; but that season, from the character of the plant, must be a distant one. All who aim at benefiting mankind, ought to keep this truth constantly in view. Almost every scheme is judged of by its effects on the living generation: whereas, no great fountain of happiness ever flowed clear at first, or yielded its full stream to the generation who discovered it. Even enlightened men do not yet understand the principles on which the order of God's secular providence is conducted, nor do they practically believe in a real and efficient government of the world by divine laws.* In consequence, mankind do not yet enjoy the moral benefits of Christianity. Practical Christianity is only developing its power, and hundreds of years may elapse before its blessed spirit shall fully pervade all the transactions of human life. I do not expect to see the principles advocated in these lectures generally reduced to practice in this age; but if they be founded in nature, they will in time vindicate their own might.

* See these questions considered in my pamphlets on "The relation between Religion and Science," and "What should Secular Education embrace?"

It is now an established principle in political economy, that Government ought not to interfere with industry. This maxim was highly necessary when Governors were little acquainted with the natural laws which regulate the interests of society. Their enactments relating to trade, were then generally failures, often doing much harm, and rarely accomplishing any good. But if God actually governs the world by means of fixed, intelligible, and steadily operating natural laws, designedly adapted to serve as guides to human conduct, and if prosperity and enjoyment be attainable only by conforming our institutions and conduct to these laws, it seems reasonable to conclude that the science of human nature being once clearly developed, our rulers might considerably hasten the attainment of beneficial results, by adding the constraining authority of human laws to enactments already instituted by the Creator. Natural laws do exist, and the Creator punishes if they be not obeyed. The evils of life are these punishments. Now, if the great body of intelligent men in any state, saw clearly that a course of action pursued by the ill-informed of their fellow-subjects was the cause of continual suffering, not only to the evil-doers themselves, but to the community, it appears to me allowable, that they should stop its continuance by legislative enactment. If the majority of the middle classes resident in towns were to petition Parliament, at present, to order shops in general to be shut at eight o'clock, or even at an earlier hour, to allow time for the cultivation of the rational faculties of the men and women engaged in them, it would be no reprehensible stretch of power to give effect to the petition : It would lead to no evil, if the ignorant and avaricious were prevented by law from continuing ignorant, and forcing all their competitors in trade to resemble them in their defects. If the Creator have so constituted the world that men may execute all necessary business and still have time to spare for the cultivation of their rational faculties, any enactment of the legislature calculated to facilitate the accomplishment of both ends would be beneficial and successful. It would be in accordance with nature, and although the prejudiced and ignorant of the present generation might complain against it, its results would justify its adoption. This principle of interference would go much farther : its only limits seem to me to be the boundaries of the real knowledge of nature ; for so long as the legislature shall enact in conformity with nature, it will be successful. At present, ignorance is too extensive and prevalent to authorise Parliament to venture far.

(Since the text was written in 1833, the legislature has partially acted on the principles here advocated. It has limited the hours of labour in factories, enacted laws for enforcing drainage and other hygienic measures in towns ; and it is now tending towards enactments to improve the education of the people. These, and other laws of a similar character, appear to me to be within the legitimate province of a representative legislature. The chief ground for hesitation is, that until the people become so far enlightened as to see the foundations of the enactments in nature, they may view them as officious and offensive interferences with their rights of private judgment and action, and resist them. But if they be really conform to nature they will not truly partake of this character, and increasing knowledge will reconcile the public mind to obedience. In point of fact, resistance will be in vain, because the order of Providence will proceed in sending suffering in various forms, as the natural consequences of disobedience to natural laws. Sooner or later this fact will be discerned, and the futility of resistance will be acknowledged. It is no slavery to obey God. Man in vain strives with his Maker.)

LECTURE III.

ON FEMALE EDUCATION.

2. LET us now turn our attention to the Female sex, and inquire into the provision made for their education.

In these Lectures I always assume that religious instruction is to be delivered by the clergy, and listened to by the people throughout life. The due fulfilment of religious duties is implied as the consequence of that instruction. As a layman I do not consider it necessary to enter at large into the subject of religion as a branch of education.

I regard the great secular business of female life to be the producing, nurture, and rearing of children ; the due management of domestic affairs ; and the cultivation of those graces, virtues, and affections, which shed happiness on the family circle. These occupations are equally important to women as professions are to men ; and under a proper system of education, women should be taught every species of knowledge, and instructed in every accomplishment, which may directly contribute to the proper discharge of their duties. At the earliest dawn of intellect and feeling, the little girl

manifests the tendency of her nature towards maternity. The doll is then the most absorbing object of interest that can be offered to her attentions. In maturer years, the mimic infant is laid aside, but the feelings which found delightful expression in the caresses bestowed on it are not extinct. The nature of the woman is the same as that of the girl; the conventional fashions of society may induce her to draw a veil over her affections; but they glow internally, and it will be among her strongest desires to give them scope in an honourable and useful field. If this be woman's nature, her education should bear direct reference to the cultivation of it; in short, next to religion, the maternal and domestic duties should be regarded as the leading objects of her existence, and her training should proceed in harmony with this great end. High physical, moral, and intellectual qualities, are necessary for the due fulfilment of these purposes. Indeed no occupations allotted to man afford a higher field for the exercise of the best elements of mind, than those here assigned to woman.

The physical quality of highest importance in a woman, viewed as a mother, is health. The human body is composed of a variety of organs, each endowed with a particular function; and health is the result of the normal action of the whole in harmonious combination. Every organ is disposed, other circumstances being equal, to act with a degree of energy in proportion to its size; and as disease is the consequence either of under-action or of over-action, their proportions to each other in size are points of fundamental importance in regard to health. The handsomest figure is one in which the abdomen, chest, and head, are all well developed; because, on the first depends digestion, on the second, respiration, and on the third, mental energy. The limbs will rarely be found deficient when the size and proportions of those regions are favourable. By the appointment of a wise Providence, a human figure of the finest proportions for symmetry and beauty, is, *cæteris paribus*, the most favourably constituted for healthy action. If the carriage of the body be erect, and the motions easy and graceful, these are indications that the bones are solid and the muscles energetic,—that the blood is well nourished and well oxygenized, and that it circulates freely. If the countenance beam with intelligence and goodness, this is an indication that the moral and intellectual regions of the brain predominate in size, and are active. Such an individual is, by birth and constitution, one of nature's nobility. A woman thus endowed, whose intellect was also instructed to such an extent that she could

maintain her high qualities unimpaired through life, would, as a mother, be a treasure of the highest value.

For many years, the lives of children depend almost exclusively on the care of the mother. Young women, therefore, should be taught not only how to regulate their own habits, so that they may preserve their health and vigour, but also how to treat children, both as physical and mental beings. This information would be attended with great advantages, whether they subsequently discharged maternal duties or not. The very study of the structure, functions, and proper treatment of children, with the view of exercising the kindly affections towards them, would be delightful in itself; and the young students, if they did not become mothers, would at least be sisters, aunts, or friends, and could never want opportunities to practise their knowledge. Information of this description is not neglected by women with impunity. It appears by the London bills of mortality, that between a fourth and a fifth of all the children baptized, die within the first two years. There is no example among the more perfect of the lower animals, of such a vast mortality of the young, where external violence is withheld; so that woman, with reason, and morality, and religion as her gifts, makes a poor figure in her maternal character, contrasted with the inferior creatures acting under the guidance of instinct alone. Much of this mortality arises from imperfect health in the parents, so that the children are born with feeble constitutions; but much is also directly owing to injudicious treatment after birth.

One important branch of female instruction, therefore, ought to be, the treatment of children as physical beings. Lectures should be instituted to communicate this information, and the basis of it ought to be anatomy and physiology.* The minutiae of these sciences need not be treated of, but the leading organs and their uses, on which health

* "It is to the deplorable ignorance, even of persons of education, with respect to the structure and functions of the human body, and everything which relates to health and disease, that we must ascribe the inability of such persons to distinguish between the rational practitioner and the quack. The higher classes, especially, hold regular physic and physicians of small account. Their idea of medicine is, that it is an art, a craft, a kind of *knack* (to use a somewhat inelegant but not inexpressive word), which some people are born with, or attain without study, and by the mere felicity of nature. If anatomy and physiology formed part of a good education, physic would reach its proper rank. But those who hang with ecstasy over stamens and pistils, or fragments of granite and spar, never seem to consider how noble and useful a subject for contemplation exists in their own frames."—*Foreign Quarterly Review*, No. xxiii., p. 119.

and mental activity depend, should be explained. The human figure may also be advantageously studied in statuary and painting, not only as an interesting object of taste, but as a source of useful practical information. A mother whose eye was familiar with the proportions of the vital organs most conducive to health, would watch with increased attention and intelligence, the progress of the nutrition of her children, and their habits and postures. The tumescent abdomen, the flat and narrow chest, the slender limbs, the large head, and the curving legs and spine, would become perceptible to her practised eye, months before they would arrest the attention of an uninstructed and unreflecting woman; and on these months, when disease was still only in its incipient stage, might depend the life of her cherished offspring. It is a great error to suppose that these studies are necessarily shocking and indelicate. They are so only in the eyes of ignorance and prejudice. Indelicate descriptions of *abuses* of the bodily functions are highly objectionable; and the enemies of knowledge have represented this to be the instruction which I recommend. Nothing can be more unlike it. The Creator has constituted every organ of the body, and, in studying its structure and uses, we are contemplating his workmanship. There is no inherent indelicacy in the human figure. It is the temple of the mind, and its Author has impressed on it a beauty of form and an elegance of proportion, that render it capable of exciting the most pure and refined impressions in cultivated and virtuous minds. Where indelicacy is felt, its source must be looked for—not in the object, but in licentious feelings, or in a perverted and neglected education in the spectator. That individual who is able to associate only impure ideas with the most exquisite specimens of the fine arts, resembles a man in whom the aspect of a rich and beautiful domain should excite only feelings of envy, cupidity, and discontent. To call the human figure indelicate, is to libel Eternal Wisdom.

The Creator has taught the inferior creatures to rear their young successfully by instinct; but he has not conferred this guide on the human mother. One of two conclusions, therefore, appears to follow. He has intended either that she should use her faculties of observation and reflection, in acquiring all the knowledge requisite for the proper treatment of offspring, or that she should recklessly allow a large proportion of them to perish. One or other of these conclusions is really inevitable; because, as He has denied her instinct, and as she cannot obtain knowledge to supply its place, without application of her intellect to the study of the laws of na-

ture,—which instinct prompts the lower creatures to obey without knowing them,—the Creator must have intended either that she *should* study these laws, or give up her offspring in vast numbers to destruction. The latter result actually happens, to the enormous extent just mentioned; and, if it be the necessary consequence of the Creator's gift of reason, in place of instinct, to woman, I submit to condemnation; but if it be the natural effect of her not having employed that reason in a proper direction, I say that He has commanded her to study His works. If this conclusion be just, we may rest assured that she may safely, and in perfect consistency with feminine delicacy, study the Creator's designs, power, and goodness, in the structure, functions, and adaptations of the human body; and that she will not find her higher faculties outraged, but exalted and refined, by the knowledge which will thus be revealed.*

It has been said, that it is better to call in the aid of a physician, than to study medicine for one's self. But I do not propose that young persons in general should study medicine. My recommendation is simply, that they should be taught the structure and functions of the body with a view to preserving their health, to fit them to judge when it is proper that medical advice should be obtained, and to enable them to act like rational patients in the hands of a skilful physician, when they are so unfortunate as to fall into disease. Every medical practitioner of a humane and honest mind, laments the unnecessary suffering and expense to which he sees his patients exposed through lack of this information. The publication and sale of such works as Dr Macaulay's "Popular Medical Dictionary," shew pretty clearly that my views on this subject are by no means singular.†

It may be imagined, that rules for the preservation of health may be taught without anatomy being studied. But all such instruction is empirical. The authority of any rule of health is the fact, that Nature is constituted in such and such a manner, and will act in her own way, whether attended to or not—for good if obeyed, and for evil if opposed. This authority is rarely comprehended without instruction concerning the foundation on which it rests. The rule, other-

* The public has strikingly responded to the views stated in the text, as is evinced by the extensive sales of the works by Dr A. Combe, "On the Physical and Moral Management of Infancy," and "Physiology applied to Health and Education," and of similar works by other authors.

† Since these lectures were delivered and published in 1833, the advice given in the text has been extensively acted on, in teaching Physiology to both sexes, by public lectures, and with the happiest effects.

wise, resides in the memory rather than in the understanding ; and the possessor has no power of modifying her conduct, and adapting it judiciously to new circumstances. She knows the rule only, and is at a loss whenever any exception or new combination not included in it, presents itself. The Professor of Scots Law most acutely and judiciously directed his students, when reading about the law of title-deeds, to take the parchments themselves into their hands, and to look at them,—assuring them that familiarity with their mere physical appearance, would aid the memory and judgment in becoming acquainted with the doctrines relative to their effects. Philosophy and experience equally confirm the soundness of this observation ; and it applies, in an especial manner, to rules relative to health. When a good description of the respiratory organs, illustrated by prepared specimens or good drawings, has been given to a young woman, she understands much better, feels more deeply, and remembers much longer and more clearly, the dangerous consequences of exposing the throat and breast to a stream of cold air or to a sudden change of temperature, than when she has only heard or read precepts to avoid these and similar practical errors.

Another leading branch of female education should be that kind of knowledge which will fit a woman to direct successfully the moral and intellectual culture of her children. This embraces a vast field of useful and interesting information. If we should ask any mother, who has not studied mental philosophy, to write out a catalogue of the desires, emotions, and intellectual powers, which she conceives her children to be endowed with ; to describe the particular objects of each faculty, its proper sphere of action, the abuses into which it is most prone to fall, and also the best method of directing each to its legitimate objects, within its just sphere, so as best to avoid hurtful aberrations,—we know well that she could not execute such a task. I entreat any lady, who has a family, and who has derived no aid from mental philosophy, to make the experiment for her own satisfaction. She will discover in her own mind a vast field of ignorance, of which, before making trial, she could not have conjectured the extent.

The earnest study of Phrenology, or, in other words, of the primitive faculties and their scope of action, should form an indispensable step in practical education. There are few mothers who do not sometimes discover wayward feelings, particular biases, or alarming tendencies breaking out in their children in some instances when they least expect them ; and I appeal to their own consciousness, whether they have not, in alarm and bewilderment, wondered what these could be, and

lamented their own inability to comprehend or to guide them. Mothers who have experienced this darkness, and have subsequently studied Phrenology, have appreciated the value and importance of the light which it has shed on their practical duties. While this edition is in the press, a talented mother of a talented son writes to me thus: "There has ever been, during the past years since my son's babyhood, a shadow in my mind that something *more tangible* than what is usually thought sufficient to guide young men, ought to exist somewhere, although I was ignorant equally of what that was, and where and to whom I should apply to obtain it. The works on Phrenology and its applications are fast investing my shadow with a body."

I am not pleading the cause of Phrenology for the sake of making proselytes. My proposition is general, that a mother cannot train faculties without knowing their nature, objects, and spheres of activity; and if any woman can find practical information on these points without the aid of Phrenology, I earnestly recommend her to seek it out and apply it. To Phrenology I owe the views of human nature and its capabilities, which have most benefited and delighted my own mind; but I am far from pressing it on others, who prefer to consider the mind as if it had no known connection with organization. If nature *has* connected it with organs, such individuals will meet with their reward in disappointment.

Let us now suppose a mother to be instructed concerning the physical constitution and mental faculties of her children; she will find it expedient next to become acquainted with the objects in the external world to which these faculties are related. We are told that it is a "delightful task to rear the tender thought, and teach the young idea how to shoot." The power of doing so seems to imply some knowledge in the teacher of the direction in which the mind will tend to shoot, and of the objects which it will desire to reach; in other words, such acquaintance with the external world as will enable the mother to excite the moral sentiments and intellect of the child, and operate on the happiness of the future man or woman. In female training, the communication of this knowledge is too much neglected. It implies the study of the elements of Chemistry, Natural History, and Natural Philosophy, as well as familiar acquaintance with the social institutions of our own country, and the civil history of nations.* If an ill-informed mother have an acute and clever

* Since the first edition of these lectures was published, several successful institutions have been formed to remedy these defects in female education.

child, how is she puzzled by its questions ! and if she possess any natural sensibility, how keenly does she feel and regret her own ignorance, when it forces her to evade instead of furnishing rational and instructive answers to its ingenious and interesting inquiries ! I earnestly recommend to such mothers to attend, as speedily as possible, lectures on science when within their reach ; for no kind of information so much delights an inquisitive child as that which unfolds the course of nature.

The mother has it in her power to exert a great and permanent influence on the character of her children ; she makes the deepest impressions, and supplies the earliest ideas that enter their minds ; and it is of the utmost importance to society at large, that she should be well qualified for so momentous a duty. Children who are not gifted with originating powers, which is the case with nineteen out of every twenty, reflect slavishly, when they grow up, the impressions and ideas which their mothers, nurses, companions, teachers, and books have infused into their minds ; and of these the authority of the mother is not the least. “ It was said by one of the most extraordinary of men (Napoleon), who was himself, as he avowed, principally indebted to maternal culture for the unexampled elevation to which he subsequently rose, that the future good or bad conduct of a child depends entirely on the mother.”* Let women remember, therefore, that they may sow the seeds of superstition, prejudice, error, and baneful prepossessions ; or of piety, universal charity, sound sense, philosophical perception, and true knowledge, according to the state of their own attainments ; and let them also ponder well the fact, that the more thoroughly destitute they are of sound information, and of rational views of mind and its objects, the less they are aware of their own deficiencies, and of the evils which their ignorance is inflicting on another generation.

In addition to the branches of solid instruction before mentioned, women should be taught such elegant and refined accomplishments as they individually are capable of learning. These throw over the domestic circle a charm which cannot be too highly prized. What I condemn is, the teaching of music, drawing, and conventional manners, to the exclusion of all other kinds of knowledge. An enlightened, refined, and elegant woman, is the most lovely and perfect of ani-

* Moore's notices of the Life of Byron, 12mo, vol. ii. p. 35. Napoleon's proposition is too general. The father's qualities influence the child ; but those of the mother do so still more powerfully.

mated beings; and no philosopher, in recommending useful instruction, would desire to see abated, by one iota, the graces which adorn the female character.

These views may appear to be so consonant with reason, that they support themselves; but as I am addressing a popular assembly, I solicit permission to strengthen them by the opinions of three contemporary authors.

The evils attendant on the imperfect education of females belonging to the upper ranks, are forcibly expounded in a late number of the *Foreign Quarterly Review* (No. xxiii, p. 127). "Nothing," says the reviewer, "is more remarkable in the present age of mental excitement, than the care with which, by most of the prevalent customs and a system of fashionable education, the minds of the generality of females are consigned to inactivity and utter uncompanionable insipidity. Whilst the expression of almost every elevated feeling is repressed as inconsistent with refinement, every artificial want, every habit of selfish gratification, is as much as possible indulged. Active exercise in the open air, cheerful country walks, a joyful participation of the hearty pleasures of any society, in which every movement is not taught by the posture-master, or conversation conducted according to the rules laid down in books professing to teach female duty and behaviour;—all this would be inconsistent with the general aim of all classes to imitate the manners and habits of the highest. All kinds of reading, except of works the most frivolous, is considered ungenteel, or at least singular; and any display of deep and unsophisticated sentiment excites universal pity. The beauties of nature, the triumphs of science, the miracles of art, excite no more than a languid expression of wonder. To apply the mind to read or understand such things, would destroy the apathetic elegance which those desire to preserve, who still believe knowledge to be a very good thing for persons who live by it. With as much care as the natural proportions of the female figure are destroyed by stays made upon abstract principles, is the mind cribbed and cabined by custom and fashion. Then, universal ambition leads to universal difficulties as to fortune; and the only serious duty as to daughters is, to obtain an advantageous settlement, which, whether gained or missed, is too often thus the cause of cureless discontent, injured health, and all the nervous maladies incidental to an ill-managed mind and infirm body."

"The system by which young ladies are taught to move their limbs according to the rules of art, to come into a room with studied diffidence, and to step into a carriage with

measured action and premeditated grace, are calculated only to keep the degrading idea perpetually present, that they are preparing for the great market of the world. Real elegance or demeanour springs from the mind : fashionable schools do but teach its imitation, whilst their rules forbid to be ingenuous. Philosophers never conceived the idea of so perfect a vacuum as is found to exist in the minds of young women who are supposed to have finished their education in such establishments. If they marry husbands as uninformed as themselves, they fall into habits of indolent insignificance without much pain ; if they marry persons more accomplished, they can retain no hold of their affections. Hence many matrimonial miseries, in the midst of which the wife finds it a consolation to be always complaining of her health and ruined nerves.”—(Ib., pp. 128–9.)

“ Knowledge,” says Mrs John Sandford, “ should be appreciated by women for its own sake, and not merely as a distinction. The superiority of cultivated women is in every thing very apparent. They have been accustomed to think and to discriminate, and their opinion is not a mere momentary impulse. Their sphere, too, is enlarged ; they are not so much actuated by selfish feelings, or so liable to receive partial, and consequently erroneous, impressions. What an easy dupe to empiricism or design is a half-educated woman ! With sufficient acquirements to be vain, and sufficient sensibility to be soon imposed on, she may be easily seduced from principles which she has received only on the authority of others, and which she is therefore ill prepared to defend.”—“ Disorder is the accident, not the consequence, of talent ; and as it is the more conspicuous, so it is the less excused, when accompanied with mental superiority.”

I conclude this branch of the subject with the following just and eloquent observations of an American authoress, Mrs Emma Willard. It forms part of an admirable address which she presented, in 1819, to the Legislature of New York, proposing a plan for improving female education ; and which address led to the formation of an extensive establishment at Troy, of which she was long the head. “ Not only,” says she, “ has there been a want of system concerning female education, but much of what has been done has proceeded upon mistaken principles. One of these is, that without a regard to the different periods of life, proportionate to their importance, the education of females has been too exclusively directed to fit them for displaying to advantage the charms of youth and beauty. Though it may be proper to adorn this period of life, yet it is incomparably more im-

portant to prepare for the serious duties of maturer years. Though well to decorate the blossom, it is far better to prepare for the harvest. In the vegetable creation, nature seems but to sport when she embellishes the flower, while all her serious cares are directed to perfect the fruit.

"Another error is, that it has been made the first object in educating our sex, to prepare them to please the other. But reason and religion teach, that we too are primary existences; that it is for us to move, in the orbit of our duty, around the Holy Centre of Perfection, the companions, not the satellites of men; else, instead of shedding around us an influence that may help to keep them in their proper course, we must accompany them in their wildest deviations.

"I would not be understood to insinuate (continues Mrs Willard), that we are not, in particular situations, to yield obedience to the other sex. Submission and obedience belong to every thing in the universe, except the Great Master of the whole. Nor is it a degrading peculiarity to our sex, to be under human authority. Whenever one class of human beings derives from another the benefits of support and protection, they must pay its equivalent, obedience. Thus, while we receive these benefits from our parents, we are all, without distinction of sex, under their authority; when we receive them from the government of our country, we must obey our rulers; and when our sex take the obligations of marriage, and receive support and protection from the other, it is reasonable that we too should yield obedience. Yet is neither the child, nor the subject, nor the wife, under human authority, but in subservience to the Divine. Our highest responsibility is to God, and our highest interest to please him; therefore to secure this interest our education should be directed.

"Neither would I be understood to mean that our sex should not seek to make themselves agreeable to the other. The error complained of is, that the taste of men, whatever it might happen to be, has been made a standard for the formation of the female character. In whatever we do, it is of the utmost importance that the rule by which we work be perfect; for, if otherwise, what is it but to err upon principle? A system of education which leads one class of human beings to consider the approbation of another as their highest object, teaches that the rule of their conduct should be the will of beings imperfect and erring like themselves, rather than the will of God, which is the only standard of perfection."

On the whole subject of education, then, I remark, that if society were organised for instructing the people, and providing time and means for the exercise of their moral and intellectual faculties, as effectually as it is for paying taxes or fighting, the progress of civilisation, and the amount of human enjoyment, would be greatly increased. Lord Brougham lately observed, that until the people shall take the matter of education with spirit and energy into their own hands, and with a resolution to accomplish something, Government will be incapable of doing any essential service to the cause. The Association at whose request these Lectures have been delivered, has been formed in anticipation of the recommendation implied in this remark. I solicit your attention to its objects and constitution, and hope that if these merit your approbation, you will favour it with your support.

ACCOUNT OF THE EDINBURGH ASSOCIATION FOR PROCURING
INSTRUCTION IN USEFUL AND ENTERTAINING SCIENCE;
NOW NAMED THE PHILOSOPHICAL INSTITUTION.

In the autumn of 1832, a number of individuals of this city, chiefly engaged in practical business, who had attended my Summer Course of Lectures on Phrenology, formed themselves into an association for the purpose of obtaining instruction in Useful and Entertaining Science. Associations for similar purposes had previously been founded in other cities, and had been partially successful, but not to so great an extent as might have been anticipated. The London University College, for example, is an institution for affording scientific education, particularly to the sons of persons resident in the metropolis, who prefer superintending their conduct in their own houses, to sending them to Cambridge or Oxford; but it has not met with the encouragement which its utility and importance deserved. In most of the great towns of England, there are literary and scientific institutions; but they also have been attended with only limited success. In the absolute amount of instruction conveyed to the people, they have fallen greatly short of what they promised to accomplish at their foundation. In tracing the causes of these shortcomings, two in particular attract our notice. In these instances, large sums of money have been collected by subscription from wealthy individuals, and expended in forming buildings, libraries, and museums. The leading founders and directors have been rich merchants, patriotic landed proprietors, and a few men of science. They have provided money, lecture-rooms, apparatus—in short

every thing physical ; but they have not been equally fortunate in furnishing audiences to fill the lecture-rooms, and students to peruse the books piled in the shelves of their libraries. Whence has this last and important deficiency arisen ?

Men in general have appetites sufficiently strong to impel them, without external excitement, to seek supplies for the wants of their animal nature. Hunger and thirst press so keenly on their feelings, that the most thoughtless of mankind are prompted, by their importunity, to exert themselves to procure food. The piercing winds and the winter's frost force them to provide raiment. But it is argued by some writers on religious and scientific education that the case is quite different with our moral and intellectual nature. The human being, deeply buried in ignorance, has no painful consciousness of his condition ; he is stimulated by no self-acting desires to feed and clothe his mind ; he will remain for ever mentally destitute and naked, the passive victim of his animal feelings, unless excited by the importunity of more enlightened men to cast aside his sloth.

The authors who espouse these principles, maintain the necessity of Established churches to teach religion, and of endowed universities to impart knowledge of philosophy and science. They regard clergymen and professors, paid by the State, as staff-officers, and an army of aggression appointed to wage war on public apathy and ignorance. It is said to be the duty of the State-Clergy to go from house to house and invade the dormant inmates ; to rouse them with the din of knowledge, and urge them to the banquet of religion. Having created an appetite for piety, these public heralds are supposed to present food fitted to every palate, and thus to Christianize the world. Professors and teachers, I presume, are expected to follow a similar course of action.

While this representation contains some truth, it does not appear to me to be entirely correct. The appetite of the mass of the people for instruction has never been fairly tried. By their external circumstances they have been trained to fight, to labour, and to indulge in dissipation ; but rarely to seek enjoyment in the cultivation of their moral and intellectual powers. It would be as reasonable to state, as an objection against human nature, that an individual trained as a divine, has little relish for agriculture or for law, as to urge as a plea against it, that labourers and artizans, whose mental powers have never been cultivated, but, on the contrary, have been blunted by their occupations, have no taste for literature or science.

Besides, the great body of the people have never had wholesome mental food presented to them, and their defect of appetite is prematurely assumed. If the foregoing views of the constitution of the mind and its adaptations be correct, the objects best calculated to rouse the intellect, and delight the moral sentiments, are those presented by Nature in her various departments ; and knowledge of this kind has never been offered to the people and rejected. Drowsy and incapable teachers have too often administered husks and rubbish to the youthful mind ; and, because it has revolted at this dose, it has been charged with a distaste for all useful information. If the minds of practical men *could* have taken a deep and abiding interest in Greek, Latin, scholastic logic, and metaphysics, I should have despaired of the progress of the race ; and yet, until almost the present day, the learned had little else to offer to their notice. That they have turned with distaste from these studies is no better proof that they will dislike all knowledge, than the rejection of wormwood by a child is evidence that it will not relish sugar. Before the appetite of the people for knowledge can be fairly estimated, they must be placed in external circumstances calculated to favour the activity of their moral and intellectual powers ; knowledge really related to their faculties must be presented to them ; and their teachers must be men qualified by nature and acquirements to communicate useful information and command respect. In "Hints on an improved and Self-paying System of National Education," recently published by the Reverend Richard Dawes, Vicar of King's Somborne,* this author states, as the result of his own experience, "and as a ground of encouragement, that where the education in our schools is made to bear on practical life, the parents themselves will make a much greater effort to pay for it than they have hitherto had credit for." (P. 17.)

In two pamphlets on the "Relation between Religion and Science," and on the question "What should Secular Education embrace?" I have endeavoured to expound the idea that the principles on which God administers the physical, organic, and moral government of the world, are to be discovered by studying the constitution, modes of action, and laws of the instruments, or of the things and beings, by means of which that government is conducted ; but this proposition is not generally recognised as true ; yet, until it shall be admitted, the paramount importance of studying and acting in harmony with the laws of nature, cannot be comprehended.

* London : Groombridge and Sons, 1847.

This view of Providence is not understood because the people have rarely been taught the philosophy of their own nature, physical and mental, and its relations to the external world. Hence, if there be any course of study or of action, written, as it were, in the constitution of man, and recommended by the Creator to our attention, too little of that lesson has yet been read to the people. Teachers themselves were ignorant of it. The mental organs being a portion of the means by which the moral government of the world is conducted, must be studied and understood before the principles of that government can be comprehended ; nevertheless, this study is, by many persons, opposed, denounced, or neglected, as if God had neither framed the organs nor established their relations.

Even assuming the argument against the appetite of the people for instruction to be more sound than it is, the proposed mode of supplying the defect does not appear to me to be altogether satisfactory. After the churches and colleges have been built, and ministers and professors endowed, the question remains, Who shall arouse and collect the people for instruction ? It is easy to say that it will be the duty of these teachers to do so ; but professors cannot, in consistency with the practices of society, go into the houses, the streets, and the byeways, and expostulate with the people on their want of a moral and intellectual appetite, and importune them to come to the banquet of knowledge and be fed. They are remunerated by fees contributed by their students, and they cannot go a-begging for an audience, without having their motives entirely misinterpreted. Great obstacles lie in the way even of the clergy pursuing such a course. There are various sects in religion, and various shades of belief. The families who differ from the State minister will not voluntarily accept of his invitation ; and if it be too anxiously urged upon them, they will repel it. If the clergy of every sect shall become active belligerents in favour each of his own opinions, they will convert the world into a theatre of theologic war, and the minds of men will become the prize of the acutest wrangler. The decorum of the clerical character requires a modest, calm, and dignified deportment, unlike that of solicitation and importunity. Yet, unless there be prompters to enforce attendance, or unless the appetite already exist to induce the people spontaneously to repair to the portals of the church, or to the halls of the schools and the university, the richest viands for the mind may be spread there, and no guests be found to enjoy their delicious savours. Accordingly, we perceive, that, after the London University College has been

reared, and other arrangements for education have been completed, the students are few, and the good accomplished is limited. The citizens, educated in words alone, are unbelievers in the existence of practical knowledge, and proceed in their wonted rounds of labour and money-getting, unconscious of the value of science, and without a motive to engage in its study. Some provincial institutions for the scientific instruction of the industrious classes, have shared a similar fate. They have perhaps been frequented for a short time, while novelty and influential names produced excitement; but have too soon been deserted by those for whose benefit they were reared. For these unfavorable results, I blame the stinted education given to the existing generation in their primary schools. This left them sceptics concerning even the existence of useful knowledge, and defrauded them of all taste for its advantages and sweets. Indifference to instruction has been fostered also, by the low estimate too generally formed by religious teachers of the practical value of natural science; and the blindness of many persons to the fact that science is information concerning the great laws by means of which God governs the world.

It is true, then, that, in the present state of society, there is a vast body of men, who, from their circumstances and training, feel no spontaneous impulses towards improving their moral and intellectual nature, and who, if provided with food, clothing, shelter, and amusement, desire little else. But there are also among the people many gifted spirits, whose native energies have enabled them to surmount all the obstacles presented by imperfect education to the expansion of their minds, whose moral and intellectual faculties long for knowledge, for refinement, and for improvement in virtue, as keenly as their bodily appetites burn for their proper gratifications. These individuals have struggled hard for food for the mind; and they have generally obtained it. They not only desire to advance themselves, but they feel a call within them to become apostles or missionaries to excite their less vivacious and intellectual brethren to improvement. This appears to me to be the class instituted by Providence for successfully inviting the unwilling guests to the banquet of knowledge.

Too many of the educational institutions which have hitherto been formed, have omitted to invoke the co-operation of these important auxiliaries. Bankers, merchants, and landed gentlemen, whose consequence and influence originated in, and depended chiefly on, wealth, have been the founders and directors of most of the existing establishments; and by rank,

habits, feelings, and inclinations, they were far removed from the class of slumbering minds who stood in need of being awakened.

The Association whose cause I now advocate, is founded on better principles. If we wished to institute a bank or an insurance company, we should apply to the richest, most experienced, and most respectable citizens, for their subscriptions, names, and influence; just because the skill of such men would constitute the soul, and their wealth the substance, of such associations. But if our object were to form a society for convincing ill-educated men and women of the evils of ignorance and the advantages of knowledge, and for urging them to send their sons and their daughters to school to be taught; and if we acted on the principles which sagacious men follow in the formation of trading companies, whom should we select to become the members and directors of such an association? Not, certainly, gentlemen who have attained eminence in trade, without being conspicuous for their general knowledge; not persons distinguished for wealth, but destitute of liberal ideas; nor even philosophers devoted exclusively to science, and far removed by their habits and pursuits from familiar intercourse with the busy, but ill-educated, sons of commerce: No;—we should give such an association a body and a soul suited to its proper objects, and then we should succeed. These are to be found only among the men, whatever may be their rank or wealth, to whom Providence has given the noble inheritance of vigorous moral and intellectual faculties; persons who have had the appetite for knowledge bestowed on them by nature, without having had instruction placed before them by fortune, independently of their own exertions: men whose minds rejoice in having been the architects of their own education; who know what it is to have been ignorant, and to have burned with the desire of instruction; and who, through many difficulties, have acquired a considerable portion of useful knowledge. An association composed of such individuals will do much good on apparently small means. They will form a nucleus round which all interested in the welfare of the rising generation may gather together. From observation and experience they will be capable of judging what kind of instruction will be most relished, and what lecturers will best communicate it. A few years ago, some of the Professors of the University of Edinburgh most laudably gave popular lectures on their sciences to the higher ranks, but failed in securing audiences after the first and second years. On inquiring into the causes of their want of success, I was led to believe that these were

two. 1. The individuals who attended were, in general, not actuated by any real love of science, but chiefly by the impulse of fashion. 2. The Professors did not put forth their strength to open up the sciences to the understandings of their audiences, with the purpose of giving them useful information. They addressed chiefly the imagination and wonder of their hearers; they astonished and amused them; but left no permanent impression of advantage resulting from the studies. Many minds are capable of teaching a subject scientifically, who cannot impart practical and popular views of it; and only those who possess the latter gift will succeed in permanently commanding the attention of a general audience.

The present Association proceeds on different principles. Its lecturers keep solid instruction, and the enlargement of the minds of their hearers, constantly in view, as their leading objects; adding graces and ornament only in so far as these are compatible with the main ends.

The members and directors of this Association, then, are men engaged in the business of the world, yet ardently alive to the advantages of education, and desirous to induce their fellow-citizens to embrace all opportunities of acquiring it. They are connected by relationship, friendship, and business, with the very classes who require to be roused and induced to come to the halls of science. They are not themselves teachers or lecturers, and are consequently at liberty to importune, advise, and plead in favour of knowledge, in a way that no professor can possibly do, to induce hearers to come to his prelections. They are at all times witnesses of the impressions made, and are much better aware of the kind of information wanted, than any established authorities, moving in a higher sphere, and holding only a formal communication with ignorant inferiors.

The Directors are regularly changed, transmitting the active management to the young and rising of each generation. It would be fatal to the project, if the same individuals were retained constantly in office. Their zeal would flag; the circle of their influence would be exhausted; and drowsiness would seize upon all the movements of the society.

Another advantage of an association of this kind is, that it affords instruction cheap. The industrious classes are so numerous, that if they will only act in combination, there are no mental advantages which wealth can command that they may not attain. As a lecturer, I can certify that, independently of gain, it is far more animating and agreeable to lecture to 100 than to 20 hearers, and more exciting still to

address 200 than 100. By bringing forward an audience of 200 or 300, therefore, the lecturer will be remunerated by a comparatively small contribution from each, and have his pleasure in teaching greatly increased.

This Association differs in its objects from the School of Arts, and has succeeded without interfering with it. The School of Arts is designed chiefly to afford scientific instruction, which may aid operative mechanics in their trades; the present Institution embraces a more extensive range. There are numerous classes of merchants and tradesmen, besides females of every rank, to whom the instruction provided at the School of Arts is too technical to be useful; and for them chiefly is this Association intended.

An objection may be urged, that only superficial knowledge can be communicated in the proposed lectures, and that the tendency of such instruction is to encourage pedantry and discontent. The line of Pope, that "a little *learning* is a dangerous thing," is often quoted in opposition to all proposals for instructing the industrious classes. There is much force in this objection, if learning be confined to mere reading and writing; but it is pointless when applied to instruction in Natural Science, which is the kind of knowledge in favour of which I am now pleading.

"It would be easy to shew," says Dr Caldwell, "that, under the government of the United States, a very limited amount of school-learning, diffused among the people, is calculated, politically speaking, to injure, rather than to benefit them. I allude to that degree of attainment, which qualifies them merely to read newspapers, and understand the meaning of what they contain, without enabling them to judge of its soundness. A people only thus far instructed, are in the fittest of all conditions to be imposed on and misled by artful demagogues and dishonest presses. When party spirit runs high, and the political passions become inflamed, they are induced, by intriguing men, to read papers only on one side of the question. The consequence is plain. Not being able to judge of the truth of the matter laid before them, as respects either the fitness of men, or the tendency of measures, they are liable to be seduced into the most ruinous courses. Were they unable to read at all, or did they never see a newspaper, their condition would be less dangerous. Demagogues would have less power to delude and injure them. In the present state of our country, it is emphatically true, as relates to the great body of the people, that

'A little learning is a dangerous thing.'

"The only remedy for the evil consists in the *reformation of the public presses, or the diffusion of more learning, knowledge, and virtue, among the people*. The former, it is to be apprehended, is not soon to be looked for. On the latter alone, therefore, rest the fate of our government, and the hope of our country. Let the community at large be taught to think correctly and feel soundly, and they will not only have a secure protection against the falsehood and corruption of the presses; these sources of mischief will cease to be encouraged. They must then choose between *reformation and extinction*. At the present moment, some of our public presses are the arch-engines of evil to our country, and a disgrace to the human character."*

I consider entire ignorance as more dangerous than partial knowledge.

"Learning," in Pope's time, meant an acquaintance with Latin and Greek, and with the barbarous jargons of logic and metaphysics, which constituted the chief stock of knowledge of educated men in his day. Science has, to a great extent, been created since the time of Pope; and it has been brought within the reach of the industrious classes only within these twenty years. His remark, therefore, is wholly inapplicable to instruction in scientific knowledge. So far as it goes, it is instruction in the laws of God's secular Providence. A *little* of such knowledge is better than *none at all*, on the same principle that it is better to know our way clearly, although only for one mile, than to be entirely ignorant to which hand to turn on our journey through life. A man who has learned how to deal with two causes which produce two effects involving his happiness, is more profitably wise than he who is acquainted with only one. If the instruction be useful, the smallest quantity cannot possibly injure, while it may create an appetite for more.

I deny, however, that the knowledge communicated will necessarily be superficial. If the directors and the lecturers do their duty, solid and extensive instruction in the great leading principles of the sciences may be communicated in popular lectures. An intelligent student of geography may be very far behind a practical surveyor in his knowledge of the localities of a particular country, every acre of which the surveyor has measured and delineated; but his knowledge of the relative positions of all important places, may still be

* A Discourse on the Advantages of a National University, especially in its influence on the Union of the United States; delivered September 25, 1832. By Charles Caldwell, M.D.

accurate, extensive, and useful. The popular student of anatomy and physiology may be far short of the skill which would enable him to tie an artery or to amputate a limb; but he may still possess precise and valuable information concerning the structure and functions of the great organs, on the proper condition of which health and life depend; and he may understand and be able practically to apply the principles thus unfolded. Lectures have also a very beneficial influence in communicating to the mind an interest in any science treated of, and a familiarity with its general principles, which enable the student to pursue his studies of it in books, with a zeal and facility which could not otherwise be attained.

It has been urged against popular instruction, that, by communicating a smattering of knowledge to all, it will prevent the growth of great geniuses and profound philosophers; in short, that we shall have a superficially learned society, but no masters in science. This is the argument of a common-place mind, which has acquired celebrity by arduous study of other men's thoughts, and which dreads the approach of the vulgar to its shrine of self-importance and conceit. There is a simple answer to the argument. Genius either *is*, or is *not*, necessary to reach the profundities of science. If it be necessary,—then my argument is, that genius is an inherent quality of a few gifted minds; it goes on in its own way conquering and to conquer; it rejoices in the fellowship of human beings, although their progress be but a furlong, while it advances a league; its power is within itself, and it is not impeded by the presence of a multitude moving in the same direction. It is cheered by their proximity, animated by their applause, and feels more confident of its reward, in proportion as they become capable of appreciating its achievements. Genius, therefore, will not stop short in its high career, because the denizens of the busy world are gazing at its progress in fond admiration, and advancing in the same path, although at a vast and perhaps an impassable distance. If genius be not necessary to profound acquirements in philosophy and science, then the higher the common standard of attainment is raised, the farther ahead must those proceed who desire to hold a prominent station in public esteem. All the motives of interest and ambition by which common minds are actuated, increase in proportion as the class is numerous and enlightened by which the prizes are awarded. This objection, therefore, has no solid foundation.

It has also been maintained, that the study of science incapacitates the mind, or at least gives it a distaste, for busi-

ness. This is an important objection, and demands serious consideration. What should we say to the assertion that the practice of walking unfitted a man for running ; or that the habit of eating wholesome food had a great tendency to impair the digestive organs ? We should laugh at such absurdities : because the man runs by means of the same bones, tendons, and muscles by which he walks ; and walking is the moderate, natural, and healthy exercise of those parts ; so that while it may well augment his capacity for running, it cannot possibly impair it, unless carried to excess. Wholesome food also is the natural stimulus of the digestive organs, and, if used in moderation, it is the best prescription for preserving them in health ; and, in point of fact, there can be no vigour in the function if it be withheld. Now, the Creator has constituted external nature and the moral and intellectual faculties of man, and adapted them to each other, with the same wisdom which he has manifested in adapting the stomach to food, and the muscles to the law of gravitation. The effects of knowledge are, to strengthen the understanding and to enable it to act vigorously, and to judge soundly of the things and beings with which it is dealing. A man transacts business by means of the same mental faculties with which he studies useful science. The moderate pursuit of science, therefore, has the same tendency to strengthen, improve, and gratify the mental faculties, that the use of wholesome food has to benefit the digestive functions. It is absurd, then, to assert either that the study of nature is *not* calculated to strengthen these powers, or that a study which *is* calculated to strengthen them, unfits them for business.

Facts also support these conclusions of reason. The Rev. J. R. Bryce, of the Belfast Academy, certified from experience, that boys engaged in studying Natural History and Languages, mastered their lessons in the latter with greater alacrity than did boys who learned languages exclusively ; and a successful private teacher in Edinburgh has declared to me that those among his pupils who are permitted to attend to science, outstrip those who do not, even in the study of Greek and Latin.

The sources of the prevalent errors on this head can be easily traced. If young persons give themselves up to the excessive and exclusive study of works of fiction and imagination, they impair their relish for, and also their powers of conducting, practical business ; because most works of fiction are addressed more to the propensities and inferior sentiments, than to the moral and intellectual faculties. The re-

cital of horrors exercises Destructiveness, the description of wild and mysterious events arouses Wonder, Cautiousness, and Secretiveness ; but these are not the chief faculties by means of which business is transacted. When these faculties become highly active, the transition to sober observation and reflection is painful, and business is disliked. The *exclusive* study of the Fine Arts, even, is not favourable to the formation of business habits. Painting, poetry, sculpture, and music, exercise Ideality, the moral sentiments, and several of the intellectual powers ; and unquestionably communicate to these refinement and susceptibility : but they leave many of the subordinate feelings and some of the reflecting faculties uncultivated ; while the objects with which they are chiefly conversant, belong to the world of imagination. The study of the Fine Arts, therefore, when exclusive, both unfits the faculties for practical business, and withholds ideas connected with worldly affairs. Many persons, from observing the injurious effects of an excessive devotion to those pursuits on the mind's aptitude for serious study, have concluded that every species of mental exercise that is not laborious and disagreeable, must have a similar effect, and that therefore science also is apt to obstruct the formation of habits of energetic application. But the cases are widely different. The kind of exercise which the study of the natural sciences gives to the mind, is closely analogous to that which is necessary in the management of practical affairs. Those persons, therefore, who imagine that they have facts in support of the baneful influence of scientific instruction, in unfitting the mind for business, must have in view only the exclusive pursuit of one abstract science, such as mathematics, which is quite different from what is here recommended. The study of the fine arts, poetry, and works of fiction, however, should not be undervalued. They are sources of great enjoyment, and when kept within due bounds, refine, exalt, and expand the mind, without weakening it. It is only excessive indulgence in the pleasures which they afford, that is practically injurious.

But there is one effect of the study of science, which I am prepared to admit. When the mind has been opened up to the designs of Providence, as displayed in creation, and has learned to draw its best enjoyments from contemplating their excellence and grandeur, and taking a part in their execution, there will be a distaste for excessive and exclusive money-getting, and for the present long and toilsome hours of attendance at the manufactory, the shop, and the counting-house. These will be felt to be inimical to man's moral and

intellectual progression, and be restricted. This result I hail as a positive advantage, believing, as I do, that all our wants may be amply supplied, and that time may still be left us to cultivate and enjoy our rational powers. Should this result follow in the course of ages, it will be an example, not of study producing incapacity for business, but of moral and intellectual enlightenment regulating the plan of life, and reducing it into conformity with the constitution of our rational nature.

The class of persons who would be benefited by the lectures which this Association will bring forward, is one of great importance. They have votes for members of Parliament, and exercise political power. From among them are chosen the managers of many of the Hospitals for educating children, both male and female, in this city. They become commissioners of Police, and in that capacity superintend all public measures for increasing the health and comfort of the citizens. As members of Parochial Boards, they are entrusted with the management of the poor, and the education and training of the pauper children. They are elected members of the Town-Council of Edinburgh, and become the patrons of the City's public schools, of the High School, of most of the Chairs in the University, and of the City Churches.* Society is at present in a state of visible transition. Old ideas, habits, and practices, are fast disappearing, and the public mind is bounding forward eagerly in search of new and untried institutions. Is it not the interest of all, that sound knowledge of physical science and the nature of man, and through them of the laws of God's Secular Providence, should be diffused among all ranks, and particularly among that class which is respectable by its morality, and influential by its property, and which requires only intellectual information to render it at once the ornament and safeguard of the state? Mechanics' Institutions provide instruction in science for operative tradesmen; and the Universities open their gates for the aristocracy; but females of all ranks, and the middle

* One of the first consequences of the instruction of this class of the community in science, will probably be the reformation of the primary schools of this City, and the second, if not simultaneous with the other, will be the ventilating of the churches and public rooms; in both of which matters the profound ignorance of the last generation continues to inflict much evil on the present inhabitants of Edinburgh. *First Edition*.—Since the foregoing note was written in 1833, a good deal has been done in Edinburgh to remove the evils of defective ventilation in public rooms. *Second Edition*, 1837.—Since 1837, great progress has been made in extending and improving schools, and promoting sanitary measures in Edinburgh, 1848.

classes of citizens, although at least as important and interesting from their numbers, their position, and their wealth, as either of the other two, have hitherto been overlooked. They are now pursuing the only course that can conduct them to an equality in point of knowledge with the classes above and below them in the social scale,—coming forward to provide the means of instruction for themselves. This is precisely what they ought to do. They possess among themselves too many well-informed, able, and active men, to render it necessary for them to go into leading-strings under the great in literature and science; and too much wealth to permit them to solicit pecuniary aid from any individuals out of their own circle. They come forth, therefore, in their own strength and might, conscious that, by union and co-operation, they can accomplish their own intellectual regeneration. Edinburgh stands pre-eminent in literary and philosophical reputation among the cities of the world; but she would place a still more noble crown of glory on her head, could she boast of industrious citizens combining talents for every species of practical usefulness with refined taste and cultivated understandings. She would then become the preceptress of the world; and prove, by her example, that labour, intelligence, morality, and religion, go hand in hand in promoting the highest enjoyments of man.

In these Lectures, then, I have endeavoured to shew, that man is a progressive and improvable being; that he is permitted to some extent to control the external elements and apply them to his advantage; that where this power is denied, he may, by observing their operation, accommodate his conduct to their influence; that to do either, knowledge of nature and its qualities is indispensable; that a knowledge of nature is a knowledge of the laws of God's Secular Providence; that the command to acquire knowledge is thus written in his constitution; and that discoveries in science and inventions in art are intended to give him leisure for studying nature, and for cultivating his moral and intellectual faculties. This Association is founded in the spirit of these views:—let us hold out to it the hand of encouragement, and promote its success.

[The Philosophical Association, after flourishing for some years, became dormant; but it was subsequently revived under the title of the Philosophical Institution, an account of which is given in the Appendix, No. 1.]

(POSTSCRIPT TO THE SECOND EDITION.)

REMARKS ON PRIZES AND PLACE-TAKING IN SCHOOLS.

The question has been much agitated, whether it be expedient to use prizes as a stimulus to exertion in education. I beg leave to offer a few remarks on the subject, leaving the reader to decide for himself.

The natural rewards for exerting each faculty are, *first*, The pleasure attending the exercise of the faculty itself; *secondly*, The value of the objects which it desires, when attained; and, *thirdly*, The consequential advantages which may result from that attainment. Thus, a highly gifted musician derives intense pleasure, directly from exercising his talents; by cultivating them he lays up a store of enjoyment for himself on which he may draw at pleasure; and he may also obtain admiration from the public, and fortune, if he choose to dedicate his abilities to their gratification.

In some children certain faculties enjoy high spontaneous activity, and the pleasure and natural advantages attending the exercise of them, suffice to render them as active as any sensible teacher or parent would desire. If a child, for example, have a great natural talent for languages, he will learn to read with facility, and experience great pleasure in reading. Books and study will be his delight, and in many instances it will be more necessary to offer him a recompense for giving up this pleasure and resorting to play for the benefit of his health, than to stimulate him by honours and prizes to greater mental application. The same remarks apply to children who have great natural talents for drawing, or calculation, or mechanics, or natural history, or any other pursuit. They will study in the direction of these faculties with an ardour and a relish that will render all extrinsic rewards superfluous. For such children, therefore, prizes, as a stimulus, are altogether unnecessary.

There are other children, however, who have very little natural talent for particular branches of education which their parents wish them to learn, such as languages, or arithmetic, or mathematics; and as they do not experience any direct pleasure in such studies, teachers have resorted to punishment for deficiency, and prizes for proficiency, in the prescribed exercises, as motives to exertion. It cannot be denied that these have a certain effect in promoting the attainment of the end in view. A boy with a moderate talent

for languages will not study Greek and Latin for his own gratification ; whereas he may be induced to do so by receiving a severe beating if he fail, and a gold medal if he succeed, in learning certain lessons.

Even the advocates of prizes, therefore, should, in consistency, confine the application of them to the object of drawing forth exertion from children in studies which are necessary for their destination in life, but to which they are not naturally inclined. The indiscriminate administration of them is clearly erroneous.

Prizes are of two kinds, either marks of personal distinction, such as high places in a class, or medals worn for a day ; —or property, such as books, sums of money, or medals of gold and silver, bestowed on the individual as gifts.

The value of the former, namely places and decorations, consists in the gratification which they afford to the self-love and vanity of the wearer. They mark, not that he is a good scholar, but that he is the best compared with his fellows, all of whom may be only indifferently accomplished.

Two obvious objections present themselves to prizes administered in this form. The gratification consists not in the attainment of an object valuable in itself, but in a feeling of personal superiority over a neighbour. The circumstance which makes a child dux, or brings him the decoration of medal, is not the actual possession of a certain quantity of useful knowledge, or of learning, but the accident of the other children in the class with him being more stupid or less diligent than himself. The mind of the child does not always contemplate the medal as the certificate that he has acquired a certain amount of information, but often as the symbol of a personal triumph over all the other children in his class. It therefore fosters pride and selfish ambition in the successful competitor, and envy and jealousy in the unsuccessful, feelings which are naturally strong, and need to be repressed ; while it does not in any appreciable degree cultivate the love of knowledge for its own sake, which is the legitimate object of education. I have known children in whom these passions were strong, bribe their more talented school-fellows, in whom they were less energetic, by giving them money or playthings, to resign high places and medals in their favour. They carried home the trophies thus acquired, and were lauded by their parents for their genius. This was a direct cultivation of falsehood and cunning, in addition to vanity and pride, in the children, and was calculated to exercise a baneful influence over their future lives.

Prizes administered in the form of donations of books,

money, or other kinds of property, do not necessarily imply the depreciation of other competitors, and in so far are unobjectionable. If they are offered, not as insignia of triumph over them, but as rewards for exertion, they appear much in the same light as fees paid to artists, and to men of talent in the professions of the law and medicine, which assuredly stimulate them to diligent application.

Great evils attend the prevalent system of administering prizes, some of which may be briefly noticed.

First, In place-takings, the competition is directly personal; and the reward of the successful child is founded on the humiliation of his less successful fellow. In this practice the attention of the competitors is very little drawn to the value of the lessons themselves; their minds are strongly agitated by the passions of ambition, envy, and hatred. Place-taking, therefore, appears to be calculated to throw into the shade the natural advantages of knowledge, and to cultivate some of the worst passions of our nature.

Secondly, In place-taking, and in the usual method of awarding prizes, the reward is frequently assigned to those individuals who have least merit. If one boy enjoy from nature a great aptitude for learning languages, with a vivacious temperament, and another possess only a moderate endowment of that talent, with a slow temperament, the latter may have sacrificed more hours of play and pleasure in preparing his lessons than the former, yet the clever boy shall reap the prize and the glory of scholarship.

Thirdly, At the time when I was educated, punishment, place-taking, and prizes, were, to a great extent, relied on as superseding the duty on the part of the masters of *teaching* the scholars. Our lessons were prescribed, and we were left to *learn* them as we best could; being flogged, confined, and put down places, if we failed to say them, and praised, put up, and let out of school early, if we were expert in performing our tasks. This rendered the school literally a place of punishment, a character of it which seemed to be recognised by the teacher himself also, when he rewarded us by abridging the hours of our confinement in it. I do not know whether this practice still lingers in any schools; but I fear that it does.

Fourthly, The prevalent system of place-taking and prizes obscures the perception in both teachers and pupils, of the natural pleasures and advantages of knowledge. From experience and observation, I am satisfied that to the great majority of children, a school may be rendered a scene of delightful occupation. A well conducted infant-school, in

which the moral affections are exercised, and the intellectual faculties instructed in objects adapted to their constitution, is resorted to by most children with positive pleasure; and the majority of young men follow courses of instruction in science with a degree of zeal which shews that they regard their studies as a pleasure, and not as a burden. If place-taking, medals, and prizes, were abolished at ordinary schools, it would soon be discovered that a number of the branches taught, as well as the methods of instruction, are deficient in real interest: it would be found impossible to induce the scholars to make adequate exertions to learn; and the consequence would be, that teachers would be prompted by necessity to select branches of knowledge and methods of instruction calculated to benefit the youthful mind, and thus improvement would be forced upon both teachers and pupils.

Fifthly, A considerable number of excellent and successful schools are now conducted without place-taking, with the best results both on the moral dispositions and the intellectual habits of the children, a fact which shews that the natural advantages of knowledge are sufficient to induce exertion for their attainment when judiciously presented to the youthful mind.

In the Appendix will be found a description of an improved method of teaching drawing for practical purposes, for which I was indebted to the kindness of the late Sir John Robison, formerly Secretary to the Royal Society, Edinburgh.

Postscript to the Third Edition.—The progress of sound principles in education is at present rapid and encouraging. The following, among other works recently published, embody, to a greater or lesser extent, the views advocated in the preceding pages, viz. :—

Suggestive Hints towards an Improved Secular Instruction. By the Rev. Richard Dawes, A.M., Vicar of King's Somborne, Hants. Groombridge & Sons, London.

200 Class Reading Lessons, comprising a circle of Knowledge. Grades I. and II. By Charles Baker, Head-Master of the Yorkshire Institution for the Deaf and Dumb. Doncaster.

Questions and Answers suggested by a consideration of some of the Arrangements and Relations of Social Life. London: Smith, Elder, & Co.

The Laws of Periodic Growth and Development, considered with reference to Hygienic, Moral, and Intellectual Education. By Lieutenant J. A. Walker, H.-P., 34th Regiment. London: Simpkin, Marshall & Co.

APPENDIX.

No. I.

THE PHILOSOPHICAL INSTITUTION, 4 QUEEN STREET,
EDINBURGH, January 1848.

THE PHILOSOPHICAL INSTITUTION was established for the purpose of placing within the reach of the Public the means not only of acquiring the fullest and most authentic information on all topics of immediate or passing interest, but of cultivating and extending the growing taste for Science, Arts, and Literature; and although it has been only about fifteen months in existence, the support which it has already received has been in the highest degree encouraging.

The Annual Subscription to the Institution is only ONE GUINEA, and there is no Entry-money payable. For this contribution Members are entitled to the use of

A NEWS ROOM, very fully supplied with all the best and most popular Newspapers;—

A READING ROOM, supplied with a great variety of the most interesting and important Literary and Scientific Periodicals, Transactions of the Learned Societies of this and other countries, &c., besides a valuable collection of Atlases, Encyclopædias, Dictionaries, and other Works of Reference;—and

A LIBRARY for Circulation, which already consists of upwards of 2000 Volumes of Standard Works in Literature and Science (besides Periodicals), and to which a liberal addition of the newest and most interesting Works is made every month.

The Members have also access to a series of

POPULAR LECTURES, consisting of a variety of short Courses on interesting topics in Science, Art, and Literature, delivered generally on the Evenings of Tuesday and Friday during the months of the Winter and Spring.

A CHESS CLUB, consisting of Members of the Institution, meets in the premises every Monday and Thursday Evening;—and

A DEBATING or DISCUSSION SOCIETY meets Weekly on Wednesday Evening;—to either of which, Members are admitted on payment of a very small additional contribution.

EVENING CLASSES for Drawing, Architectural and Engineering, —Drawing, Figure, Landscape, and Ornamental,—English, includ-

ing Grammar, Composition, and Elocution,—Fencing and Gymnastics,—French,—German,—Geology and Mineralogy,—Mathematics,—and Singing—have been instituted, with the view of accommodating young men who require the aid of Teachers in the prosecution of their studies. The hours of meeting are fixed so as to interfere as slightly as possible with ordinary business engagements, while the Fees are as moderate as possible, due regard being had to efficient Teachers and proper accommodation.

A REFRESHMENT ROOM is now fitted up on the premises for the convenience of Members.

Lady's Annual contribution, FIFTEEN SHILLINGS.

No. II.

ON AN IMPROVED METHOD OF TEACHING DRAWING.

To JOHN ROBISON, Esq., Sec. to
the Royal Society, &c.*

EDINBURGH, 10th January 1837.

DEAR SIR,—In conversation I have heard you mention an improved method of teaching drawing for practical purposes, which you recommended, and which appears to me to be calculated to be highly useful. Would you do me the favour to state your method in writing, and to permit me to print the description of it in the Appendix to the new edition of my Lectures on Popular Education, which is now in the press? This may be the means of extending the knowledge of it, and especially of benefiting the operative mechanics in whose advancement you take so enlightened an interest.—I am, dear Sir, yours faithfully,

GEO. COMBE.

Mr Robison kindly favoured me with the following answer to this letter :—

9 ATHOLE CRESCENT, 11th January 1837.

DEAR SIR,—In reply to your request, that I should give you a brief statement in writing of the ideas which I entertain on the subject of teaching drawing as a part of the ordinary course of popular education, I beg to say, as a preliminary, that, in what I have already stated to you verbally, and in what I may now write, I wish to be understood as referring chiefly to that art or power of delineating the objects presented to our eyes, which may be useful to every one in the ordinary habits of life; and that I do not take into con-

* Afterwards Sir John Robison.

sideration the further training which may be required for those who aspire to cultivate the higher departments of the Fine Arts.

I now proceed to say, that it appears to me that every one who can write is capable, with a slight effort, of making every line or mark which is wanted in order to represent any object presented to him. It is not, therefore, the mechanical use of the pen or the pencil which requires to be taught, so much as the art of looking at objects, and *of recognising what we really see*. When the habit of noting the true visual forms of objects has been acquired (which it will soon be, if cultivated under the directions of an intelligent instructor), the power of delineating the outline will not be long found wanting; the perception of the effects of light and shade may be acquired in the same way, and they will then be rendered on paper by the pupil with a degree of truth which he could not attain by any time or labour spent in copying the drawings of others.

If a young or uninstructed person be required to make a representation of such an object as a common pencil, he will probably proceed to mark on his paper an outline of the actual length and breadth of the pencil, but he will be at a loss to shew that it is round and not square; again, he will not be able, without consideration, or perhaps explanation, to delineate on paper the different appearances which the pencil assumes when held nearer to or further from the eye; or in positions more and more oblique until nothing be seen but the circular end. A little pains on the part of the instructor would lead a pupil to observe and comprehend all that is required to do this, by making him attend to what he really sees, and the lesson, when once acquired, would be in little danger of being forgotten, although it in fact include the whole doctrine of perspective.

In forming any institution for teaching drawing *as a useful art*, I should therefore propose that the pupils should, from the very commencement, be exercised in noting and delineating the appearances of a few simple objects, presented to their view at varied distances, heights, and degrees of inclination. A convenient object may be found in a cubical box of wood, fitted to slide on an upright rod or stand, on which it may be fixed at any desired height by a hollow through its axis. If this model be set in front of a pupil, at such a distance that it can be conveniently seen, and its height be made that of his eye, and one of the sides be parallel to his face, then, on noting its appearance, he will soon observe that it may be represented by a square outline, parallel to the sides of his paper. If the model be then raised by sliding it up the rod, the pupil will find that a change in the *apparent* form has taken place, and that his outline must include a representation of the bottom, which he will be enabled to give, by combining his present observations with what he learned in studying the changes of position of the pencil in the earlier lessons. He will also find, that the degrees of light falling on the two

faces which he now sees are different, and require different shadings from the pencil. In the first case, the single face of the cube which he saw may have been either lighter or darker than the distant background, and in the delineation some shading may have been required on the background, or on the object, according to which appeared darkest to him; but in this second case, he may have three degrees of light to represent, according to existing circumstances. In the same way, the position of the model may be varied, both in respect to figure and to light; or, if a class be under instruction, the pupils may interchange their places round the object, and each in succession take similar views, and compare the results at the conclusion of each series.

It is obvious that such a system of instruction may be pursued to a great extent, and with the variations which may be required according to the views of the pupils; and that, even for those who intend to pursue the higher branches of the Fine Arts, a better foundation could hardly be given for enabling them to understand and profit by the examples left by the great masters.

I shall be very happy that these ideas meet your approbation; and if they do so, you are at liberty to make any use of them which you may wish.—I am, dear Sir, very faithfully yours,

JOHN ROBISON.

WHAT SHOULD SECULAR EDUCATION EMBRACE?

BY

GEORGE COMBE.

SECOND EDITION, CORRECTED AND ENLARGED.

“ Why did the members of the Privy Council take an oath? Why make a reference to a superintending Providence in the Queen's speeches, and in some of their Parliamentary enactments? Was it not perfectly clear that in doing these things they were recognising a moral Providence, a moral Governor of the world, who superintended, directed, and controlled human actions? and, therefore, when they recognised a superintending Governor and a moral Providence, it was perfectly clear that *they also recognised the necessity of knowing and acting upon his will.*”—*Speech of Lord Ashley in the House of Commons on 16th December 1847, reported in the Evening Mail, on the “ Removal of Jewish Disabilities.”*

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PREFACE.

THE following Pamphlet contains a farther elucidation and application of the principles advanced in my two preceding publications, "Remarks on National Education," and on "The Relation between Religion and Science."

The word "secular" signifies "temporal, belonging to this world or life," in contradistinction to "spiritual," which designates things relating chiefly to eternity. Secular education, therefore, should mean education calculated to instruct us in the best means of acting with success the part allotted to us in this world, whatever that may be; and to train us to render that instruction practical. The object of the following pages is not to expound the details of a scheme of secular education, but to inquire into the kind of information which man stands in need of, in order to place him in a condition to act his part in this life with success; and to shew that the communication of that information, whatever it shall prove to be, should form the grand object of secular education. After the *object* of secular education is understood, the *means* of accomplishing it will be more accurately judged of, and more easily realised.

The line of inquiry which I have followed is difficult and comparatively new. If, therefore, I shall succeed in conveying to the mind of the reader a general comprehension of the idea which I advance, I shall hope for his indulgence on account of the imperfections which must necessarily attend an attempt to treat so vast a subject in so brief a compass as a pamphlet. In no other form, unfortunately, could so general a consideration of the topic be expected to be attained.

In the words of the great Reformer, "I think they are extremely mistaken who imagine the knowledge of philosophy and nature to be of no use to religion."—*Luther*, tom. ii., epist. 371.

WHAT SHOULD SECULAR EDUCATION EMBRACE?

THE question which at present engages so much public attention, viz., What should Secular Education embrace? appears to me to depend for its solution on the answers to some previous questions; viz., Does God really govern the world? Is the *mode* in which He governs it discoverable? If it be scrutable and intelligible, is it adapted to the nature of man? If man be capable of acting in harmony with it, what will be the consequences of his neglecting to make himself acquainted with it, and to adapt his conduct to its laws?

It will not generally be disputed, *1st*, that secular education should include an exposition of everything which is necessary to be known to enable us to act in harmony with the order of God's secular providence, if such an order exist,—be discoverable,—and be designedly adapted to the human faculties; and, *2dly*, that it should embrace also such a training of all our powers, physical and mental, as may be necessary to establish in us the disposition to act habitually in harmony with that order.

In the early part of the seventeenth century, religious men believed that the government of the world was then administered by special acts of Divine interference in the affairs of man, in the manner described in the books of the Old and New Testaments. If this opinion was well founded, and if the same system of government is continued in the present day, then instruction in the principles and mode of action of that government should constitute the substance of *secular* as well as of religious instruction; because such knowledge alone would reveal to man the influences by which his condition on earth is determined, and enable him to adapt his conduct to their agency. The curriculum of study in most of our schools and universities was instituted by men who believed not only that this system of government prevailed in their own day, but that it would continually exist; and this opinion influences the judgment of the great majority of religious persons to the present hour.

In a pamphlet on "The Relation between Religion and Science," I endeavoured to shew that this belief is neither

countenanced by science nor warranted by experience, as applicable to the times in which *we* live ; but that, on the contrary, the world is *now* governed by natural laws designedly adapted by the Divine Ruler to the human mind and body, and calculated to serve as guides to human conduct. It is not necessary again to enter into the evidence and train of reasoning by which this conclusion was reached. I proceed, therefore, to remark, that if the scheme of government by special interpositions of Divine power be not now in force, and if human affairs be ruled by God's providence operating through the medium of the constitution and relations of natural objects and beings, then a knowledge of these things and beings, and of their modes of action, will be a key to the knowledge of the order of God's providence in the secular government of the world, and will constitute valuable instruction for the young. It will unfold to their understandings and their consciences the temporal duties which God requires them to discharge, and the mode in which they may most effectually discharge them ; and it will enable them to comprehend the rewards and punishments by means of which He enforces obedience to his requirements in this life.

As few persons doubt that God actually governs the world, we may assume this point to be conceded, and proceed to inquire whether the mode in which his government is maintained be discoverable by human reason. I beg to remind the reader that, if this world be *not* now governed by acts of special interposition of Divine power, and if it be *not* governed by natural laws cognizable by the human understanding and adapted to the nature of man, it must necessarily be a theatre of anarchy, and consequently of atheism ; in other words, a world without the practical manifestation of a God. If, on the other hand, such laws exist (as science proclaims), they must be of Divine institution, and worthy of our most serious consideration.

Accordingly, the profoundest thinkers generally admit that this world *is* governed by natural laws ;* and hence the chief practical questions that remain to be solved are these :—Can human intelligence discover the means by which God governs the world ? And, if it can do so, is it able to modify the action of those means, or to adapt human conduct to their influence ? These topics, accordingly, shall form the first subjects of the present inquiry.

* See Note I., in the Appendix to "The Constitution of Man," and pages 5th and 6th of "The Relation between Religion and Science." Also "Answer by G. Combe to the Rev. C. J. Kennedy." I was indebted to Dr Spurzheim's work on the Natural Laws of Man, for my first appreciation of the importance of these laws.

In introducing them to the reader, perhaps I may be excused for stating the circumstances which first awakened in my own mind that deep interest in the subject which has induced me so often to address the public in relation to it.

By pursuing this course, I shall be under the necessity of introducing a portion of my individual history—a perilous thing for a living author to do, and one which naturally exposes him to the imputation of vanity and egotism: but as a counterbalance to this disadvantage, the development of the origin and progress of a writer's convictions may probably, with some readers, invest the abstract questions of which he treats with a greater living interest, while it will afford facilities to all for deciding whether he is labouring under an idiosyncrasy of perception and judgment, or is advocating, however inadequately and imperfectly, really interesting and important truths.

Fortified by these considerations, and soliciting the indulgence of the reader, I beg to mention, that an event so common and trivial as almost to appear ludicrous when introduced into a grave discourse, but which is *real*,—led by insensible degrees to the convictions which I am now endeavouring to diffuse. When a child of six or seven years of age, some benevolent friend bestowed on me a lump of sugar-candy. The nursery-maid desired me to give a share of it to my younger brothers and sisters, and I presented it to her to be disposed of as she recommended. She gave each of them a portion, and when she returned the remainder to me, she said, "That's a good boy—God will reward you for this." These words were uttered by her as a mere form of pious speech, proper to be addressed to a child; but they conveyed to my mind an idea;—they suggested intelligibly and practically, for the first time, the conception of a Divine reward for a kind action; and I instantly put the question to her, "*How* will God reward me?" "He will send you everything that is good." "What do you mean by 'good'—Will he send me more sugar-candy?" "Yes—certainly he will, if you are a good boy." "Will he make this piece of sugar-candy grow bigger?" "Yes—God always rewards those who are kind-hearted."

I could not rest contented with words, but at once proceeded to the verification of the assurance by experiment and observation. I forthwith examined minutely all the edges of the remaining portion of sugar-candy, took an account of its dimensions, and then, wrapping it carefully in paper, put it into a drawer, and waited with anxiety for its increase. I left it in the drawer all night, and next morning examined it

with eager curiosity. I could discover no trace of alteration in its size, either of increase or decrease. I was greatly disappointed ; my faith in the reward of virtue by the Ruler of the world received its first shock, and I feared that God did *not* govern the world in the manner which the nursery-maid had represented.

Several years afterwards, I read in the Grammatical Exercises, an early class-book then used in the High School of Edinburgh, these words : “ *Deus gubernat mundum*,” “ God governs the world.” “ *Mundus gubernatur a Deo*,” “ The world is governed by God.” These sentences were introduced into the book as exercises in Latin grammar ; and our teacher, the late Mr Luke Fraser, dealt with them merely as such, without entering into any consideration of the ideas embodied in them.

This must have occurred about the year 1798, when I was ten years of age ; and the words “ *Deus gubernat mundum—Mundus gubernatur a Deo*,” made an indelible impression, and continued for years and years to haunt my imagination. As a child, I assumed the fact itself to be an indubitable truth, but felt a restless curiosity to discover *how* God exercised his jurisdiction.

In the course of time, I read in the Edinburgh Advertiser, the newspaper taken in by my father, that Napoleon Buonaparte (instigated and assisted, as I used to hear, by the devil) governed France, and governed it very wickedly ; and that King George III., Mr Pitt, and Lord Melville, governed Great Britain and Ireland—not very successfully either, for I read of rebellion, and murders, and burnings, and executions in Ireland ; while in Scotland my father complained of enormous Excise duties which threatened to involve him in ruin. I saw that my father ruled in his trade, and my mother in her household affairs, both pretty well on the whole ; but with such evident marks of shortcoming and imperfection, that it was impossible to trace God’s superintendence or direction in their administration.

In the class in the High School of which I was a member, Mr Luke Fraser seemed to me to reign supreme ; and as I felt his government to be harsh, and often unjust, I could not recognise God in it either. Under his tuition, and that of Dr Adam, the Rector of the High School, and of Dr John Hill, the Professor of Latin in the University of Edinburgh, I became acquainted with the literature, the mythology, and the history of Greece and Rome ; but in these no traces of the Divine government of the world were discernible.

These were the only governments of which I then had

experience, or about which I could obtain any information ; and in none of them could I discover satisfactory evidence of God's interference in the affairs of men. On the contrary, it appeared to me, that one and all of the historical personages now named did just what they pleased, and that God took no account of their actions in this world, however He might deal with them in the next. They all seemed to acknowledge *in words* that God governs the world ; but, nevertheless, they appeared to me to *act* as if they were themselves independent and irresponsible governors, consulting only their own notions of what was right or wrong, and often pursuing what they considered to be their own interests, irrespective of God's asserted supremacy in human affairs. Most of them professed to believe in their accountability in the next world ; but this belief seemed to me like a rope of sand in binding their consciences. They rarely hesitated to encounter all the dangers of that judgment when their worldly interests or passions strongly solicited them to a course of action condemned by their professed creeds.

From infancy I attended regularly an evangelical church, was early instructed in the Bible, and in the Shorter and Larger Catechisms, and the Confession of Faith of the General Assembly of Divines at Westminster, and read orthodox sermons and treatises by various distinguished authors. In the Old Testament I read narratives of God's government of the Jewish nation, by the exercise of special acts of supernatural power, and understood this as a clear and satisfactory exposition of Divine government. In the New Testament, also, certain special acts of Divine interference with the affairs of men were recorded, which likewise gave me great satisfaction, as evidences that God governs the world ; but I never could apply these examples to practical purposes.

I learned, in some way which I do not now recollect, that during many ages after the close of the Scripture records, the Roman Catholic priesthood had asserted that such acts of special supernatural administration continued, and that they themselves were the appointed instruments through whose medium it pleased God thus to manifest his power. But I never *saw* instances of this kind of government in my own sphere of life.

In the course of time I read arguments and criticisms which carried with them an irresistible conviction, that these pretensions of the Roman Catholic priesthood had been pious frauds practised on an ignorant and superstitious people ! Here, then, was another shock to my belief that God go-

verns the world ; and the difficulty was increased by an obscure impression, that notwithstanding this denial by the Protestant divines, of the continuance of a special supernatural Providence acting through the Roman Catholic priesthood, they and their followers seemed to admit something very similar in their own favour.* As, however, I could not discover by observation, satisfactory evidence of special acts of Divine interference in human affairs, taking place in consequence of *their* solicitations, any more than in consequence of those of the Roman Catholic priesthood, I arrived at the conclusion that all special acts of Divine administration had ceased with the Scripture times ; and thus I was again sent adrift into the great ocean of doubt, and no longer saw traces of the *manner* in which God governs the world in our day, whatever He might have done in the days of the Jewish nation.

As I advanced in understanding, my theological studies rather increased than diminished these perplexities. I read that "not a sparrow falls to the ground without our heavenly Father," and that "the very hairs of our heads are numbered;" which seemed to indicate a very intimate and minute government of the world. But simultaneously with this information, I was taught that God forgives those who offend against his laws, if they have faith in Jesus Christ and repent; and that He often leaves the wicked to run the course of their sins in this world without punishing them, reserving his retribution for the day of judgment. This seemed to me to imply that God really does not govern the world in any intelligible or practical sense, but merely takes note of men's actions, and commences his actual and efficient government only after the resurrection from the dead.

On the other hand, when still a youth, I read "Ray on the Wisdom of God in Creation," and subsequently "Paley's Natural Theology," and these works confirmed my faith that God does govern the world ; although, owing to my ignorance of science, they rather conveyed an impression of the fact, than enabled me to perceive the *mode* in which He does so. As, however, I never saw any person *acting* on that faith, it maintained itself in my mind chiefly as an impression ; and not only without proof, but often against apparent evidence to the contrary. My course of inquiry, therefore, was still onward ; and with a view to obtaining a solution of the problem, I studied a variety of works on moral and metaphysical subjects ; but from none of them did I re-

* See examples in point in the pamphlet on "The Relation between Religion and Science," pages 1, 2, 3.

ceive any satisfaction. In point of fact, I reached to man's estate with a firm faith that God governs the world, but utterly baffled in all my attempts to discover *how* this government is effected.

This feeling of disappointment became more intense in proportion as a succession of studies presented to my mind clear and thoroughly convincing evidence, that in certain departments of nature God does unquestionably govern the world. When, for example, I comprehended the laws of the solar system, as elucidated by Copernicus, Galileo, Newton, and Laplace, and perceived the most perfect adaptation, harmony, and regularity pervading the evolutions of the planets and their satellites, the conviction that God governs in that system was at once irresistible, complete, and delightful. But the planets were far away, and I longed to discover the same order and harmony on earth ; but in vain.

My next study was Anatomy and Physiology. From this source new light broke in upon my mind. When I saw and understood the mechanisms for the circulation of the blood, the nutrition of the body, the motions of the limbs, and the execution of the functions of vision, hearing, and smelling, again the conviction became intense that in the constitution of the human body also God's agency is clearly discernible : But then came the puzzling question,—Why, if such be the case, does God abandon this mechanism, after He has so exquisitely made it ? That He does forego all subsequent care of it, then appeared to me only too obvious ; for around me I saw disease, and pain, and death, and multitudinous evils, all arising from this mechanism becoming impaired in its structure or disordered in its functions.

Nevertheless some facts transpired which seemed in contradiction to this supposed abandonment of the machine by its Author. I was told, for example, that every tissue of the body had received a conservative, and also a reparative power ; that, in virtue of the former, it resists, up to certain limits, external injurious influences ; and that when those limits have been passed, and the structure has actually been invaded, a process of reparation commences, the natural issue of which is restoration of the injured part. The granulation of flesh wounds, and the re-integration of broken bones, afford familiar examples of this process. In these instances, the wisdom, goodness, and power of God appeared actually woven into the texture of our frames. His government of our corporeal structure seemed so complete, that every muscular fibre, and every filament of nerve, obeyed his mandate throughout our lives, and not only when in

health performed precisely the function which He had assigned to it, but, in disease, brought into active play powers which He had provided for the emergency, and which, although incomprehensible to human intelligence, entered on their protective and recuperative functions at the very moment when their agency was wanted.

Clear, however, as this example of Divine government appeared to be, I found no application made of it beyond the domains of surgery. No practical inference was deduced from it, to regulate human conduct in the ordinary circumstances of life. When I left the medical school, all traces of the government of God in the world were lost, and my feeling of disappointment returned.

Chemistry was the next science which engaged my attention, and it presented extraordinary illustrations of Divine government in the qualities and relations of matter. In the revelations made by this science, I discovered powers conferred on matter capable of producing the most stupendous results, yet all regulated in their action with a degree of precision that admitted even of mathematical and arithmetical measurement. In their reciprocal relations, I perceived an extent, variety, and wisdom of adaptation that captivated the understanding, and roused the most vivid emotions, as if of a present Deity. It is difficult to describe the effect which the first scientific demonstration of the chemical law in virtue of which water, when in the act of freezing, loses a portion of its specific gravity, and in its form of ice floats on the surface of the pool, produced on my intellect and moral sentiments. The adaptation of this quality to the preservation of the beings which inhabit the water, and to the due limitation of the influence of frost on the physical creation—the efficacy, simplicity, and unerring certainty of the means, contrasted with the vastness of the end accomplished—appeared irresistibly to proclaim the all-pervading God. Yet when I left the chemical laboratory and returned into the world of business, these delicious visions fled, and I could no longer trace the Divine government in the affairs of men.

In this condition of mind I continued for several years, and recollect meeting with only two works which approached to the solution of any portion of the enigma which puzzled my understanding. These were “Smith’s Wealth of Nations,” and “Malthus on Population.” The first appeared to me to demonstrate that God actually governs in the relations of commerce; that He has established certain natural laws which regulate the interests of men in the exchange of commo-

dities and labour ; and that those laws are in harmony with the dictates of our moral and intellectual faculties, and wisely related to the natural productions of the different soils and climates of the earth. But in my early days, I found the truth and utility of Smith's doctrines to be stoutly denied by Parliamentary leaders and practical merchants ; in short, by everybody except a small number of thinking but uninfluential men. With this exception, our rulers, merchants, manufacturers, and even our divines, concurred in treating Dr Smith's alleged discovery, that the relations of commerce are governed by natural laws instituted by God, as an idle dream ; they pursued measures directly opposed to the principles which he taught as characterising that government, and they confidently expected to reap a higher prosperity from following the dictates of their own sagacity than from obedience to that wisdom which Smith represented as Divine. I perceived, indeed, that they were constantly disappointed in their expectations, and that the more they opposed the free intercourse of nations, the more their commercial prosperity was impeded ; but all influential men thought otherwise, and these lessons led only to new experiments on their own principles—still avoiding most scrupulously every approach to the views advocated by Dr Smith.

I first read the work of Mr Malthus in 1805, and he appeared to me to prove that God reigned, through the medium of fixed natural laws, in another department of human affairs—namely, in that of population. The facts adduced by Malthus demonstrated to my mind that the Creator has bestowed on mankind a power of increasing their numbers much beyond the ratio of the diminution that, in favourable circumstances, will be caused by death ; and, consequently, that they must either, by ever-extending cultivation of the soil, increase their means of subsistence in proportion to their numbers, or expose themselves to the evil of having these restricted by disease and famine, to the amount which the actual production of food will maintain. These propositions, like the doctrines of Adam Smith, met with general rejection ; and their author, far from being honoured as a successful expounder of a portion of God's method of governing the world, was assailed with unmitigated abuse, and his views were strenuously resisted in practice. Nevertheless, I saw clearly, as time wheeled its ceaseless course, that the results of human conduct corresponded with Mr Malthus's annunciations ; and that his opponents, who governed the United Kingdom according to their own maxims, were never able to screen the inconsiderate poor, who reared families without securing for

them adequate means of subsistence, from the evils which he had pointed out as inseparably connected with their erroneous principles of action.

Bishop Butler also threw a flash of light across the dark horizon ; but it was only a flash. He announced clearly the great principle of a moral government of the world by natural laws ; but he threw little light on the *means* by which it is accomplished. In consequence of his not understanding the means, his views in regard to the Divine government of the world, although in the main sound, are not practical. He was compelled to resort to the world to come, in order to find compensation for what appeared to him to be imperfections in the moral government of this world, in some instances in which a more minute knowledge of the mode of God's present administration would have convinced him that the apparent imperfection is removable on earth.

During the continuance of these perplexities, this consideration presented itself to my mind,—that in every department of nature, *the evidences of Divine government, of the mode in which it is administered, and of the laws by which it is maintained, become more and more clear and comprehensible, in proportion to the exactness of our knowledge of the objects through the instrumentality of which it is accomplished.* Wherever we are altogether ignorant of the causes of phenomena, or where our knowledge of them is vague and general, confusion seems to reign ; while intimate knowledge uniformly reveals order and harmony,—in other words, action characterised by the regularity of law. Moreover, I observed that in the physical creation, order is maintained, and an efficient government realised, by the endowment of every object with certain definite forces, which it displays with undeviating regularity, so long as its circumstances continue the same ; and by the adjustment of the action of each of these forces to that of all the others with which it is connected. The balanced centripetal and centrifugal forces of the planets, for instance, produce their revolutions round the sun, and, at the same time, preserve them in their places. These endowments and adjustments of material substances forcibly convey to the human mind the impression of government and order instituted and maintained by a Being superior to man.

The following questions next presented themselves for solution :—Why should the traces of Divine administration become obscure in the moral department of creation ? Why should we be so deeply in the dark concerning the laws according to which life, health, talents, dispositions, and individual and social happiness, are dispensed to man ? It appeared

to me that these questions might best be answered by asking others. Do we know intimately the causes which produce health and disease? These must regulate the endurance of life. Do we know the causes which give rise to the different dispositions and capacities of men? These must be eminently influential in determining their individual lots. Do we know the precise social effects which these dispositions and capacities are fitted to produce, when permitted, in the case of each person, to act blindly, to act under false or imperfect information, or to act under a clear and correct knowledge of the real nature and relations of things? On the extent of this knowledge will depend our capacity to discern the causes of social happiness or misery. Do we know whether these causes and effects, whatever they may be, are subject to any extent to human control? And if so, *how* we may control them? If they are not subject to man's jurisdiction, do we know whether he has it in his power to modify, in any degree, his own conduct, in relation to their agency, so as to diminish the evil or increase the good which they are calculated to produce?

To nearly all of these questions only a negative answer could be given; and I suspected that in this ignorance lay the grand obstacle to the discovery of the mode in which God governs the organic and moral departments of creation: but time rolled on, and no new light appeared.

Hitherto, probably, I have succeeded in carrying the mind of the reader along with me; for many persons may have experienced doubts and difficulties similar to those now described: but from this point forward I fear that greater differences may arise between him and me. The facts on which the view to be now stated is founded have not hitherto been generally investigated with that seriousness and patience which are indispensable to their successful study; and hence their reality, and the importance of the lessons which they teach, are not appreciated. Nevertheless, long-continued and dispassionate observation having convinced me of their truth, and of the inestimable value of the consequences which flow from them, I proceed to describe, in a few words, the means by which these clouds of darkness were at length partially dispelled from my mind, and the moral horizon of the world, in some degree, cleared up to my mental vision.

In the course of time I became aware of the importance, in relation to this question, of certain facts which were previously generally known, but from which no practical conclusions had been drawn in regard to the mode in which God governs the world. These were, that the Creator has con-

ferred on man a system of organs of respiration ; a heart and bloodvessels ; a stomach and other organs of nutrition, and so forth ; that to each of these He has given a definite constitution ; that He has appointed definite relations between each of them and all the others, and between each of them and the objects of external nature ; *that life and health accompany the normal and harmonious action of the whole ; and that disease, pain, and premature death, are the consequences of their disproportionate and abnormal action.* Moreover, I saw that God had given to man faculties which enable him to observe, understand, and act according to, the laws which regulate the functions of those organs.

From that time the idea began to dawn on my mind that the study of the structure, functions, relations, and laws of these vital parts, *is the true mode of investigating the principles according to which God dispenses life, health, disease, and death in this world ; in other words, the mode in which He governs this department of creation.* In maturing this idea, my late brother, Dr A. Combe, was my constant coadjutor and guide.

It is unnecessary to carry the history of these personal difficulties farther. Let us now endeavour to bring this idea itself to the test of observation and reason. With this view we may select the endurance of life as the subject of our consideration.

That the endurance of life is governed by regularly operating laws, becomes obvious from the records of mortality. The records of burials kept in the different countries of Europe present striking examples of uniformity in the number of deaths that occur at the same ages in different years. So constant are these results, while the circumstances of any country continue the same, that it is possible to predict, with nearly absolute certainty, that in England and Wales, of 1000 persons between the ages of 20 and 30, living on the first day of January in any one year, ten will die before the first day of January in the next year.*

Uniformity in the numbers of events bespeaks uniformity

* I have selected the example of deaths from ages between 20 and 30, because, as will afterwards be shewn, during this interval the conditions of life seem to be to a great extent under human control. In later periods, from 70 to 80, or 80 to 90, they are not so. The human frame then obeys the law of its constitution—it decays and dies ; but it does so under no inscrutable law. The causes of its decay are palpable, and the effects are obviously designed. The individual who suffers has then no duty but submission to the will of the Being who conferred life on him at first as a gratuitous boon, and who is entitled to withdraw it when the objects for which it was given have been accomplished.

in the causes which produce them; and uniformity in causes and effects constitutes the fundamental idea of government by natural laws. If, then, these deaths do not occur arbitrarily or fortuitously, but result from regularly operating causes, the following questions present themselves for solution:—Are these causes discoverable by human intelligence? If they are so, can that intelligence modify them? If not, can an individual adapt his own conduct to their operation so as to influence their effects? These questions are important equally in a religious and a practical point of view. If the causes are constant and inscrutable, and their effects irresistible, it follows that, in regard to death, we are subject to a sublime and mysterious fatalism; in short, that the Mahometan doctrine on this subject is true. If, on the 1st day of January in any one year, a thousand youths, in the vigorous period of life, know, with nearly positive certainty, that ere the clock strikes twelve on the night of the 31st of December, ten of their number will be lifeless corpses; and if, nevertheless, not one of them be able to discover who are to be the victims, or to employ any precautions to avert the blow from himself,—what is this but being subject to a real fatalism?

If, on the other hand, the causes *are* discoverable, and if the individuals subject to their influence possess also the power of modifying them, or of accommodating their own conduct to their action, and of thereby changing their influence on their own condition for good or evil, the Divine government will present a widely different aspect. Instead of a system of mysterious fatalism it will be one of causation, regular in its action, scrutable in its principles, designedly adapted to the physical, moral, and intellectual nature of man, and as such presented to him for the cognizance of his intelligence, the respect of his moral feelings, and the practical guidance of his conduct. In discovering the causes of the ten deaths and their modes of operation, we shall acquire a knowledge of the principles on which God administers life and death to men at the age between 20 and 30. We shall obtain a glimpse of the order of God's secular providence in this department of his kingdom. If this view be erroneous, there appears to be no alternative to the conclusion that, in regard to life and death, we are the subjects of a fatal despotism. Let us inquire, then, whether the causes be scrutable, and whether human power is capable of modifying their influence.

If we desire to know by what laws God governs the sense of hearing,—that is to say, under what conditions He bestows this boon upon us, and continues it with us,—we shall best

succeed by studying the structure and modes of action of the ear, and examining its relations to the air, to the constitution of sonorous bodies, to the brain, and also to the digestive, respiratory, and circulating systems of the body, on the action of which the sense of hearing indirectly depends. It is no abuse of language to say that, in studying those details, we should be studying the conditions under which, within certain limits, we may retain, forfeit, improve, or impair the sense of hearing, pretty much at our discretion. In the structure, the functions, and the relations of the ear, we should discern the manifestations of God's power and goodness, and a clear exposition of the principles on which He administers this sense. In the means by which we are permitted, within certain limits, to destroy or to preserve, to impair or to invigorate our hearing, we should discover the evidence of His government not being a despotism or a fatalism, but a system of regular causation adapted to our constitution and condition, and presented to us for the investigation of our intelligence, and the guidance of our conduct. In the constitution of the sense and the appointment of its relations, which man cannot alter, God's sovereignty is made apparent. By connecting certain beneficial consequences with the actions done in accordance with that constitution and those relations, and certain painful consequences with actions done in discordance with them, which consequences also man cannot alter, the Divine Ruler preserves His own sway over the sense and over all who possess it ; while by endowing man with intellect capable of discovering that constitution and its relations, with religious emotions enabling him to respect it, and with power within certain limits to act in accordance or discordance with it, and thereby to command the favourable or the adverse results at his own pleasure, human freedom is established and guaranteed ; and man appears as a moral, religious, and intelligent being, studying the will of his Creator in His works, worshipping Him by conforming to His laws, and reaping the rich rewards of enjoyment destined to him as the consequences of his fulfilling the objects of his being. By those means the Divine government is maintained simultaneously with man's freedom.

The same propositions may be predicated in regard to all the senses.

The question next occurs, Does this mode of government stop with the senses ? It appears to me not to do so, but to extend to every organ of the human frame. As already observed, God has bestowed on man lungs and other organs of respiration ; a heart and other organs of circulation ; a sto-

mach and other organs of nutrition ; a brain and nervous system, which are the organs of thought, sensation, and will : to each of these He has given a definite constitution, and He has appointed definite relations between each of them and all the others, and between each of them and the objects of external nature. These constitutions and relations have been established with design, viz., the design of conferring on man life and health until he shall reach the age of threescore years and ten. They have been framed and appointed by Divine wisdom and intelligence ; and every part of them operates with undeviating regularity. Life and health, then, are the result of the normal and harmonious action of the whole of them ; disease, pain, and premature death, are the consequences of their disproportionate and abnormal action.

Now, no reasonable doubt can be entertained that man has received from his Creator faculties of observation and reflection, which, when assiduously employed, render him capable, to a constantly increasing extent, of observing, understanding, and acting in conformity with the constitution, functions, and relations of these organs, and thereby securing the enjoyment of life and health ; but, if he choose, he may neglect them, and suffer pain, disease, and premature death. Hence it seems to follow that God has revealed to man the laws according to which He dispenses life and health ; and actually invited him to take a moral and intelligent part in acting out the scheme of His providence for his own advantage.

The practical conclusion which I draw from these considerations is, that an intelligent individual who should know the structure, and functions, and laws of health of the vital organs of the human body,—the quality (*i. e.* whether strong or weak, sound or diseased) of the constitution which each of the thousand persons had inherited from his progenitors,—and the moral and physical influences to which each should be subjected, could predict with a great approximation to accuracy,—*which* of the thousand would die within the year. If this view be correct, the ten deaths in the thousand, which, in the present circumstances of social life, appear like the result of a fatal fiat, would become merely the exponent of the number of individuals in whose persons the conditions of health and life had *de facto* been so far infringed as to produce the result under consideration ; without necessarily implying either that these conditions are in themselves inscrutable, or that the course of action which violates them is unavoidable. The sway of fatalism would

disappear, and in its place a government calculated to serve as a guide to the conduct of moral and intelligent beings would be revealed;—a government of which causation, regular in its action, certain in its effects, and scrutable in its forms, would constitute the foundation.

Moreover, it would follow from this view, that in the administration of God's secular providence in consigning ten individuals out of the thousand to the grave, and leaving nine hundred and ninety alive, as little of favouritism as of fatalism is to be discovered. The only sentence which each individual would find recorded regarding himself would be, that he must either obey the conditions of health, or suffer the consequences of infringing them.

It may be objected that it is impossible for any one individual to acquire all the requisite information; but this objection is foreign to the question. The real point at issue is, whether, if our instruction were directed by a just appreciation of these principles, it would be possible for an intelligent person between 20 and 30 years of age, to acquire from his parents, his teachers, his medical advisers, books, and his own observation and experience, a knowledge of the conditions of life and health *in relation to himself*? and whether, if instructed in them, and trained from infancy to venerate and observe them as Divine institutions, and supported in doing so by social manners and public opinion, he could then, in an adequate degree, comply with the conditions, and escape from the supposed fatal list? I can perceive no reason for answering in the negative. If, in the first hundred years after the members of any community began to act on those principles, one individual in the thousand, could escape from the list, and reduce the mortality to nine, the principle would be established; and the question in subsequent centuries would be only how far this knowledge and obedience could be carried.

In point of fact, the records of mortality *prove* that the view now stated correctly represents the principle on which the continuance of life is administered by the Divine Ruler of the world. When read in connection with history, these records shew that if the intelligence, morality, industry, cleanliness, and orderly habits of a community be improved, the result will be an increase in the duration of life in that people. Thus, in 1786, the yearly rate of mortality for the whole of England and Wales was 1 in 42: or in other words, 1 out of every 42 of the whole inhabitants died annually. In the Seventh Annual Report (p. 19) of the

Registrar-General, it is stated that the rate of mortality for the whole of England, on an average of 7 years, ending in 1844, was 1 in 46. Allowing for some errors in the earlier reports and tables, the substantial fact remains incontestible, that the average duration of human life to each individual is increasing in England and Wales, and from the causes here assigned.

Moreover, Professor Simpson, in a recent pamphlet on the value and necessity of the statistical method of inquiry as applied to various questions in operative surgery, presents direct evidence in support of the proposition which I am now maintaining.

The following table, he says, calculated from the bills of mortality of London, demonstrates statistically, that, in consequence of improvements in the practice of midwifery (and I should say also, in consequence of the improved habits and condition of the people), the number of deaths in childbed in that city in the 19th century was less by one-half than that which occurred in the 17th century. The table is the following :—

*Average number of Mothers dying in childbed in London
from 1660 to 1820.*

YEARS.	PROPORTION OF MOTHERS LOST.		
For 20 years ending in.....1680.....	1	in every 44 delivered.	
For 20 years ending in.....1700.....	1	..	56 ..
For 20 years ending in.....1720.....	1	..	69 ..
For 20 years ending in.....1740.....	1	..	71 ..
For 20 years ending in.....1760.....	1	..	77 ..
For 20 years ending in.....1780.....	1	..	82 ..
For 20 years ending in.....1800.....	1	..	110 ..
For 20 years ending in.....1820.....	1	..	107 ..

It is probable that in the earlier years included in this table the records were more imperfect than they were in the later years, and that the difference of the mortality is in consequence exaggerated ; but, again, making every reasonable allowance for errors and omissions, the grand result is still the same, a diminution of deaths from a more rigid conformity to the conditions according to which the Ruler of the world dispenses the boon of life.

Further,—the records of mortality, when arranged according to the different classes of society, and different localities of the same country, indicate the soundness of the same principle. In the pamphlet on the “Relation between Religion and Science,” p. 24, I cited the following results presented by a

report of the mortality in Edinburgh and Leith for the year 1846 :—

The mean age at death of the 1st class, composed of gentry and professional men, was	43½ years.
The mean age at death of the 2d class, composed of merchants, master-tradesmen, clerks, &c., was	36½ years.
The mean age at death of the 3d class, composed of artizans, labourers, servants, &c., was	27½ years.

It is a reasonable inference from, although not necessarily implied in, this table, that the 3d class furnished a larger proportion of the ten deaths in the thousand persons between the ages of 20 and 30 than the 2d, and this class a larger proportion of them than the 1st ; and, as God is no respecter of artificial rank, that the differences in the proportions were the result of the individuals of the 1st and 2d classes having fulfilled more perfectly than those in the 3d, the conditions on which He proffers to continue with them His boon of life. Again, Mr Chadwick testifies that “ while one child out of every ten dies within the year at Tiverton—and one-tenth is the average of the county,—one in five dies at Exeter,” in consequence of deficient sewerage and improper habits in the people. The reports of the Registrar-General of England afford overwhelming evidence of a similar kind. The same conclusion follows from these facts—that life is administered according to regular laws, which the inhabitants of some localities obey to a greater extent than those of others :—in other words, that a knowledge of the causes which favour the endurance of life, and of those which produce disease and death, is an acquaintance with the order of God’s providence in this grand department of the government of the world. And if this be the case, can we doubt that the relations of cause and effect, in virtue of which life is preserved, and death ensues, were rendered by God cognisable by the human understanding, with the design of serving as guides to human conduct ?

The suggestion here presents itself, that as an intimate knowledge of the structure, functions, and laws of the vital organs of the body, is apparently the true key to the right understanding of the order of God’s secular Providence in dispensing health and life, and disease and death, to individuals,—it is possible that, in like manner, an intimate acquaintance with the functions, relations, and laws of the faculties of the mind, may open the path to the discovery of the mode in which the Divine government of the *moral* world is conducted.

By the moral government of the world, is meant the control and direction maintained by the Divine Ruler over human

actions, by means of which He leads individuals and the race to fulfil the objects for which He instituted them. The problem is to discover the *manner* in which this government is accomplished. As observed in the pamphlet on Religion and Science, our ancestors in the 17th century believed this government to be conducted by special acts of supernatural interference on the part of God with human affairs. Science has banished this idea, and has substituted in its place the notion that the moral world also is governed by natural laws ; but it has made small progress in unfolding what these laws are, and how they operate. The consequence is, that, at this moment, even enlightened men have no systematic or self-consistent notions concerning the *mode* in which the Divine government of the moral world is conducted. They acknowledge in words that there *is* a Divine government in the moral as well as in the physical world, and that it is by natural laws ; but here they have stopped, and most of them are silent concerning the *mode* of that government. In consequence of the exclusion, effected by science, of the notion that special acts of Divine interference now take place in human affairs, the religious teaching founded on that principle has become effete. It has not been formally given up, but it is no longer of practical efficacy. Hence, we are at this moment really a people without any acknowledged, self-consistent, satisfactory, or practical notions concerning the moral government of the world ; in other words, concerning the order of God's providence in governing the actions of men, and educing from them the results which He designed.

How is this deficiency to be supplied ? Apparently in the same manner in which we have supplied our other defects of knowledge of the order of God's providence in the physical and organic kingdoms. Do we know intimately the machinery by means of which the government of the moral world is maintained and conducted ? The answer must be in the negative. Have we any science of mind resembling in precision, minuteness, and certainty, the sciences of astronomy and chemistry ? Monsieur De Bonald, in words quoted by Mr Dugald Stewart, answers the question. " Diversity of doctrine," says he, " has increased from age to age with the number of masters, and with the progress of knowledge ; and Europe, which at present possesses libraries filled with philosophical works, and which reckons up almost as many philosophers as writers ; poor in the midst of so much wealth, and uncertain, with the aid of all its guides, which road it should follow ;—Europe, the centre and focus of all the

lights of the world, has yet its *philosophy* only in expectation."*

If the science of mind be as indispensable to our understanding the *manner* in which the Divine government of the moral world is conducted, as is the science of matter to our comprehending the order of that government in the physical world, and if Monsieur De Bonald's description of the condition of mental science be correct, there is no cause for surprise at the darkness which envelopes us in regard to the government of the moral world.

It is too certain that Monsieur De Bonald is in the right ; for although man has received a material body, has been placed in a material world, been subjected during his whole life to material influences, and can act on the external world only through the instrumentality of material organs, nevertheless, in the most esteemed treatises on the philosophy of mind, moral and intellectual faculties are described without mention of special organs, or of the influence of these in modifying the manifestations of the faculties ; and without taking notice of the relation of each faculty and organ to the other faculties and organs, or to external objects. Here, then, a dark abyss of ignorance, apparently impassable, breaks off all practical knowledge of the connection of the body with the mind, and of the organs by means of which the mind acts, and is acted upon, by the external moral and physical creation. And if our knowledge of the order of God's providence can increase only with our knowledge of the *means* or *instruments* through which He administers it, are we to sit quietly down, and allow this state of ignorance to continue for ever ?

The cause why it has continued so long appears to me to be obvious enough. In a state of health, most men have no consciousness of the existence and interposition of material organs in thinking. They are conscious of thoughts and feelings, but not of organs ; and people have been taught to ascribe all the phenomena of consciousness to *mind alone*. Consequently, they are offended with those who refer such phenomena in any degree to the influence of organs. Nevertheless, facts which are revealed by the most ordinary *observation*, shew that our mental manifestations are influenced, at every moment of our lives, by the condition of the organs. The question then occurs, May not the key to a knowledge of the manner in which God governs the world of mind be found in the study of these organs, and their laws and relations ? One point seems to be clear enough ; namely, that if God *has*

* Stewart's Preliminary Dissertation to the Encyclopædia Britannica, vol. i., p. 230.

instituted mental organs, and ordained their functions, their constitution and laws must be adapted to the constitution and laws of all the other departments of creation ; and that, therefore, a correct knowledge of the relations of the world of mind to the world of matter, must be unattainable while we remain in ignorance of the mental organs.

A knowledge of these organs, therefore, and their relations and laws, appears calculated at last to form a bridge across the abyss of ignorance, which has hitherto concealed from our view the manner in which the Divine government of the moral world is conducted.

Let us inquire, then, whether the system of Divine government before described, stops with the inorganic and organic departments of creation ; or whether it extends into the domain of mind. One of the most striking anomalies in the moral government of the world consists in the wide-spreading magnitude and frequency of crime. Is it possible to discover whence it arises ? Is it a direct result of the institutions of the Creator, or does it spring from abuses of faculties that are in themselves good ? Statistical inquiries into human conduct present the same striking indications of uniformity in results as do those into the endurance of life. Mons. Quetelet furnishes us with the following table relative to crime in France :—

YEARS.	Accused and brought personally before the Tribunals.	Condemned.	Number of Inhabitants for each person accused.	Number condemned out of each 100 accused.	Accused of Crime.		Proportion between these classes.
					Against the person.	Against property.	
1826	6988	4348	4457	62	1907	5081	2·7
1827	6929	4236	4593	61	1911	5018	2·6
1828	7396	4551	4307	61	1844	5552	3·0
1829	7373	4475	4321	61	1791	5582	3·1
Total	28,686	17,610	4463	61	7453	21,233	

“ Thus,” says Mons. Quetelet, “ although we do not yet possess the statistical returns for 1830, it is highly probable that we shall find, for that year also, 1 person accused out of every 4463 inhabitants, and 61 condemned out of each 100 accused. The probability becomes less for 1831, and less for the succeeding years. We are in the same condition for estimating by the results of the past, the facts which we shall see realised in the future. This possibility of assigning be-

forehand the number of the accused and condemned which should occur in a country, is calculated to lead to serious reflections, since it involves the fate of several thousands of human beings, who are impelled, as it were, by an irresistible necessity, to the bars of the tribunals, and towards the sentences of condemnation which there await them. These conclusions flow directly from the principle, already so often stated in this work, that effects are in proportion to their causes, and that the effects remain the same if the causes which have produced them do not vary.”*

The same uniformity is observable in Great Britain. A return to the House of Commons, dated 22d May 1846, shews the number of persons committed to prison for each of seventeen different denominations of offences, including robbery, housebreaking, arson, forgery, rape, and so forth, for two different periods of five years each, one while the offences were capital, and one after they had ceased to be so punished. The result is the following :—

Number of persons committed for the foregoing crimes during the five years immediately preceding the abolition of the punishment of death,	7276
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Number of ditto during the five years immediately succeeding the abolition of the punishment of death,	7120
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The first aspect of these facts suggests the idea that fatalism is the principle of government in the moral world also ; and the questions must again be solved—Whether the causes which produce these constant results are scrutable by man ? and if so, whether he is capable of modifying them ; if not, whether he is capable of adapting his conduct to their action in such a manner as beneficially to vary their results ? It is remarkable that in all ages, lawgivers have acted on the principle that human volitions are absolutely free ; for they have directly forbidden certain actions, and enacted punishments against those who committed them, without making any inquiry into the power of their subjects to obey the law. Even in modern times, and in the face of statistical returns such as those now quoted, shewing a constant succession of crimes only partially influenced in amount by the punishments inflicted, and proclaiming, with trumpet tongue, the existence of causes lying deeper than mere punishments can reach, the rulers of nations proceed in their course of assuming absolute freedom. They proclaim the law, and inflict punishment for disobedience, irrespective of the mental condition and physical circumstances of their subjects. They have partially

* Sur L’Homme, &c., tome ii., p. 168.

succeeded in checking crime, but they must confess also to much failure and disappointment. What, however, is the sound conclusion to be drawn from the facts before us ?

The regularity observable in the numbers of criminals indicates the existence of regularly operating causes of crime. The first step in the investigation, therefore, must be to discover these. Several causes are generally recognised by reflecting men, such as, want of education, bad example, destitution, and so forth. These, however, do not serve to account satisfactorily for the phenomena ; for out of a thousand persons all equally deficient in education, equally exposed to bad example, and equally destitute, only a definite and constant number (say ten) will become criminals in any one year in which the external circumstances of all continue unchanged. This fact shews that the primitive causes of crime, be they what they may, affect some and not other individuals ; and until we discover what these are, we shall never understand whether crime is a direct or a contingent result of the Divine institutions ; nor whether human intelligence is capable of modifying these institutions so as to diminish or remove it. Moreover, until we make this discovery, these causes, although removable, must and will produce unvarying and constant results, as if they were the mere instruments of an overwhelming fatalism.

The solution of this problem extends far beyond the department of mere criminal legislation. It involves the whole question of God's government of the moral world ; of man's freedom, and of the nature of his responsibility in this world. If the common assumption that the will of man is *absolutely* free were founded in fact, then God could exercise no direct control over the moral world ; for the control of a superior necessarily implies limitation of freedom in the servient agent. If, on the other hand, He exercises an inscrutable and irresistible sway, dooming thousands to commit crime, and to become the victims of the tribunals erected and administered by their more favoured brethren, every notion of a moral government of the world must be abandoned. On such a supposition man could enjoy no freedom, and his only duty would be that of submission in despair.

I have already hinted at the causes why this branch of knowledge is involved in such apparently hopeless obscurity. The means by which the Creator conducts the moral administration of the world have been unknown, and hence His scheme of government could not be comprehended. If there be any part of the human system by means of which all the desires, emotions, and intellectual powers of man act, and

are acted upon by external objects and beings, it appears to follow, that by studying its constitution, functions, laws, and relations, in the same spirit and manner as we do those of the ear, or the eyes, or the lungs, and with analogous objects in view, we may be able to discover the mode in which it has pleased God to govern the world of mind ; and that then also we may be in a condition to judge whether the causes of moral actions in general are subjected to any natural laws, and whether the moral being himself can exercise any control over those laws, or modify their results by accommodating his conduct to their sway. If there be organs subject to natural laws, which subserve the action of all the mental powers of man, the Divine government may have its foundation in, and maintain its authority by means of, those organs and their relations, just as that government is maintained over health and life through the medium of the laws to which the vital organs have been subjected. If man be capable of discovering those organs, of modifying them, or of accommodating his conduct to their action so as to vary their results, then will he, within certain limits, be a free and intelligent agent ; and his responsibility will be established by the fact, that over the constitution, relations, and laws of the organs and faculties themselves, and the consequences of good and evil attached to the use and abuse of them, he will have no command ; while, by choosing between obedience and disobedience, he will enjoy that kind of freedom which consists in selecting results.

The constitution of the human mind appears to be adapted to such a system of things as is here supposed. Man has received animal propensities and moral sentiments, every one of which has a legitimate sphere of action, accompanied by enjoyment ; while each may be misapplied, and thereby become an instrument of suffering. He has received also intellectual faculties enabling him to observe the qualities of things that exist, and reflecting faculties that enable him to perceive causation. These endowments would be absolutely unsuited to a sphere of being in which there was no fixed order of cause and effect. They presuppose regular causation ; and in bestowing them, the Creator has obviously invited us to study the means by which He executes His secular providence and to accommodate our conduct to its laws. In submitting these means to our cognisance, He presents to us a practical revelation of the course of conduct which He desires us to pursue in order to work out our own enjoyment in this world. Is it not true, therefore, that in the endowment of objects and beings with specific qualities and

modes of action, which we cannot alter, God maintains his supremacy; while in enabling us to discover these, and to modify our conduct in relation to them, He bestows on us all the freedom compatible with our subjection to the government of a superior Being?

It is of no consequence to the validity of this argument, in what part of the body the organs of the mind are situated. Their mere existence warrants the inference, that they serve as the media through which God maintains His government in the moral world. The reader, therefore, may, if he please, reject Phrenology as an idle dream, if he only admit that in this life the mind is not a disembodied spirit, but acts and is acted upon through the instrumentality of organs, the condition of which affects its powers of manifestation.

Let us assume, then, but only for the sake of illustration, that the brain is the instrument by means of which the mental faculties act, and are acted upon by the external world, and let us try to solve the problem of the moral government of the world by means of this hypothesis. Suppose that each primitive animal desire, moral emotion, and intellectual faculty, is connected with a certain portion of the brain; and that (age, exercise, health, constitution, and all other things being the same,) each organ acts with a degree of energy corresponding to its size. Suppose farther, that in ten individuals out of a thousand, the size of the animal organs in relation to the moral and intellectual is *plus*, and that in the other 990 the balance of size is equal between these different groups of organs, or that it predominates in favour of the moral and intellectual,—we can easily comprehend that in social circumstances in which stimulants are applied to all the faculties, the animal desires may be prone to attain a criminal ascendancy in the ten individuals in whom their organs are in excess; in other words, that these may be the ten offenders in the thousand.

If all the organs, wherever situated, were instituted by God; if the connection between their size, health, and other conditions, and the energy of their action; and also the subordination in authority of the animal to the moral,—were established by Him; if certain spheres of action were assigned by Him to each of them, and certain consequences attached to under-action, moderate action, and over-action,—also to action in accordance with the constitution of external objects and beings, and other consequences to action in discordance with that constitution;—then it appears to me that a knowledge of these particulars will, to a certain extent, constitute information concerning the means by which God administers the moral and intellectual government of man.

If, farther, we assume that man, without being able to alter the fundamental constitution and relations of any one of these organs, has, nevertheless, received faculties which enable him to observe and comprehend them, and to modify his conduct in relation to the consequences of their action, we should again have an example of human freedom existing within prescribed limits, combined with stable, regular, undeniable Divine government. Suppose, for example, an individual to exist, in whom the size of the animal organs so far predominated over that of the moral and intellectual organs, that, in ordinary circumstances, he could not avoid yielding to external temptation to vicious indulgences; still, if either he, or the society among whom he lived, possessed the knowledge of the cause of his proclivity to fall into crime, he himself, by changing his circumstances, or they, by doing so for him, might avert the crime, by withdrawing him from the temptation.

According to this view, the tables of crime adduced by Mons. Quetelet and others, would indicate only the number of individuals whose mental organization is so deficient, or so unfavourably balanced, that they are unable to resist the external temptations to crime to which they are exposed; but would not warrant the conclusion, that the better constituted members of society, if they knew the peculiarities of that organization, and used all the means which that knowledge would place in their power to rescue the individuals from temptation, might not diminish the number of offenders and offences to an extent as yet unascertained.

The limits of a pamphlet do not allow me to enter on the consideration of acts of mere vice, imprudence, or folly; or to show their causes, and the nature of the consequences by which they are followed. This has, to some extent, been attempted in my other works; and I can now only remark, that the principles here expounded apply to them all.

These illustrations are introduced merely to call attention to the proposition, that if there be now no special interpositions of Divine power in human affairs, it appears to follow, that the Divine Ruler must either govern through the constitution and laws which He has bestowed on the inorganic, organic, and moral elements of creation, or (in so far as man can perceive) not govern at all. Moreover, there appears to be no road open by which human intelligence can discover the principles according to which the Divine government proceeds, in administering the details of secular life, and can learn to act in accordance with them, except that furnished by the study of *the instruments through which it is accomplished*.

If the main idea here insisted on be sound, it will present

secular education in a new light. Instruction concerning the qualities, modes of action, and relations of sublunary things and beings, instead of being godless, will prove to be an exposition of the means by which God's secular providence is administered.

The next question, however, is, Will this knowledge be of itself sufficient to induce and to enable the young to regulate their conduct in accordance with the natural laws? Certainly not. The following desiderata will still need to be supplied.

Knowledge directly addresses the intellect alone; but the intellect is more the regulator than the source of active power. The latter comes chiefly from the propensities and sentiments. We must therefore train *all* the propensities and sentiments, under the direction of the intellect, to act in harmony with the secular arrangements of God's providence. The sentiment of Veneration, for example, must be trained to respect, to hallow, and to obey, the laws prescribed for human conduct in the constitution of nature. This sentiment is distinct from the intellect, and may be led to regard almost any object as sacred. In ancient Egypt, it was trained to venerate reptiles; in ancient Greece and Rome, to reverence images as gods; in modern Roman Catholic Rome, to invest with sanctity the Pope; in Presbyterian Scotland, to venerate the Bible, and the clergy who expound it; but in no country with which I am acquainted, has it been trained to regard as sacred the order of God's secular providence revealed in nature.

The liability of this sentiment to take almost any direction given to it in youth, appears to me to explain the widely different responses which the religious consciences of men differently educated give to the same question. The Roman Catholic religious conscience regards it as sinful to eat flesh on Fridays; while the Protestant religious conscience considers this observance to be superstitious. In Scotland, the Protestant religious conscience considers it sinful to engage in any amusement or recreation on Sunday afternoon; while on the continent of Europe, the religious conscience, both Protestant and Catholic, generally views recreation on the Sunday evening as perfectly permissible.

The inference which I draw from these and similar well-known facts is—that it is possible to invest almost any object or observance with a religious character, provided the sentiment of Veneration be trained in childhood and youth to reverence it, and be supported through life by the sympathy of public opinion in its favour. If this conclusion be sound, and if the secular arrangements by which God exercises His

sovereignty in this world, be worthy of the respect of His rational creatures, then it would be a legitimate and useful practice to present these arrangements to the young as objects of regard. When they had been trained to respect them, perhaps the knowledge thus hallowed might exercise some influence over their practical conduct.

There are other two sentiments belonging to the higher class of faculties which strongly influence conduct, namely, Hope, and Admiration of the wonderful, the great, and the good. These are the fountains of trust, expectation, faith, and joy in believing. Experience proves that they are distinct from the intellect, and that, by early training, they may be directed to very different classes of objects and observances. I should propose, therefore, to present the order of God's secular providence, as revealed in nature, to these sentiments also, as objects worthy of regard, and should train them to see God himself revealed in His works. A child thus reared, might perhaps, when he grew up to man's estate, consider himself as exercising faith, trust, and confidence in God himself, when he yielded obedience to His laws ; and he might be led even to believe that God would render the order of His providence conducive to good, however darkly and imperfectly this tendency might be discerned, in some of its parts, by those of His creatures, who continued to be the ignorant slaves of prejudice and passion.

It is impossible in a pamphlet to enter into a full exposition of this subject. Suffice it to observe, that *all* the faculties should be trained in youth to respect and obey God's natural laws ; and that I venture to hope for practical results only after this has been accomplished. The reader is requested to aim at grasping the *general idea* which is here expounded, irrespective of the completeness or perfect accuracy of all the details.

It will be objected, perhaps, by some individuals, that such a training of the moral and religious sentiments would be a complete desecration of them ; that it would bind the free and immortal spirit in the trammels of material laws ; render its actions and aspirations ever subservient to low calculations of secular good and evil ; and, in short, put an end to spiritual life, and all those inward communings of the soul with God, which constitute the grand sources of the enjoyment and consolation afforded by religion.

The answer to this objection is easily given. The education and training now proposed, would leave every man free to follow the bent of his own inclinations in regard to the whole spiritual kingdom, and its interests and objects. The

only effect of it would be, to place the religious emotions, and all the other faculties, under the restraints of God's natural laws, when they acted in sublunary scenes and dealt with temporal duties.

Farther, the religious sentiments are not singular in being fountains of inward light. *Every faculty* has its inward lights as well as they. An individual, for example, who has an active temperament and large organs of Acquisitiveness, is inspired by brilliant aspirations after unbounded wealth, and pictures to himself unlimited happiness in its attainment. But the modes of producing and attaining riches are really regulated by natural laws ; and these will, in point of fact, determine his failure or success, whether he believes in their influence or not. To follow the inward lights of his Acquisitiveness, therefore, irrespective of these laws, is not to enjoy a rational freedom, but to yield to the blind impulses of an inferior propensity.

Similar remarks apply to the inspirations of the religious emotions. While their action is confined to the interests of eternity and the spiritual kingdom, the laws of that kingdom are their proper guides ; but when they issue forth into the sphere of temporal objects, they come under the jurisdiction of the laws of God's secular providence as certainly as the animal propensities themselves. They can accomplish no terrestrial good, except by conforming to these laws ; while they must produce unequivocal evil whenever they transgress them. This view of the strict subjection of man to the order of God's secular providence is offensive to many religious persons ; but it is so, in my opinion, only because, owing to the imperfections of their education, they either do not know the laws of that order, or have not been trained to reverence them as sacred.

When the structure and functions of the eye are studied in relation to the qualities and laws of light, an exquisite adaptation of the sense to external luminous bodies is discernible. The same observation applies to the ear and sonorous bodies ; to the lungs and the respirable gases ; in short, to every organ and function of the body, with which we are sufficiently acquainted. No human sagacity, however, can yet predicate the precise use of the spleen, and, in consequence, its adaptation to its objects is a mystery. It appears as an unmeaning mass, amidst objects resplendent with design. Similar remarks apply to the brain. To many who have studied the functions of its different parts, there appears the same admirable adaptation of *them* to the external world, and to the order of providence embodied in the

constitution of that world, as is recognised in the case of the organs before named. We discover organs and faculties of observation directly related to the qualities of external objects and beings; organs and faculties related to their phenomena; organs and faculties related to their agencies, and the consequences which they produce; and organs and faculties related to the interests of man as an individual, and as a social, a moral, and a religious being. On contemplating these endowments and relations, and the order of God's providence administered through them, the intelligent mind thrills with vivid emotions of love, gratitude, and admiration of their Great Author. A "present Deity" is felt to be no longer a figure of speech, or a flight of poetry, but a positive and operating reality. We not only feel that we "live, and move, and have our being" in God, but become acquainted with the means through which His power, wisdom, and goodness affect us, and discover that we are invited, as His moral and intelligent creatures, to co-operate in the fulfilment of His designs. The beautiful exclamations of King David, "If I climb up into heaven, Thou art there; if I go down to hell, Thou art there also: if I take the wings of the morning, and remain in the uttermost parts of the sea; even there also shall Thy hand lead me, and Thy right hand shall hold me," become positive scientific truths; and man takes his true station as the interpreter and administrator of nature under the guidance of nature's God.

In the days of Lord Bacon, philosophers speculated and reasoned concerning the constitution of nature, without sufficiently observing its qualities and phenomena. He recommended to them to observe first, and to reason afterwards; and so thoroughly has this counsel been followed, that in modern times, scientific reputations are built up almost exclusively on observations. Science has, perhaps, to too great an extent, fallen into the hands of men in whom the observing organs predominate over the reflecting; and it is now rather an exception than a rule to see practical conclusions regarding what men should do or abstain from doing, drawn from even the most elaborate expositions of natural science. There is a gulf between science and daily life, and another between science and religion; and the schoolmaster, who, under an enlarged and enlightened view of the order of God's providence, should be the expositor of that order to the young, pursues his daily routine in comparative ignorance of his high vocation, and is humbly estimated and poorly requited by a society nearly as ignorant as himself.

To those who are *not* acquainted with the functions of the

different parts of the brain and their relations, this organ, like the spleen, still appears a mere unmeaning mass of matter lodged in the interior of the skull, and these views of its importance may seem to be a hallucination or a dream. But, as already observed, if they acknowledge the existence of mental organs at all, instituted by God, the conclusion appears to follow that those, wherever situated, are the direct instruments by means of which He exercises His secular dominion in the world of mind ; and I hope therefore to be pardoned for the earnestness of this appeal in favour of the study of their functions.

If there be any degree of truth in the views now propounded, the question, "What should secular education embrace ?" may be easily answered. It should embrace instruction in the qualities, modes of action, relations, and purposes of the things and beings by means of which the government of the world is maintained ; and also *training* of the whole faculties, animal, moral, and intellectual, to *action* in conformity with the order of Providence.

The particular branches of instruction should be the following :—

READING and WRITING as the means of acquiring, recording, and communicating knowledge.

ARITHMETIC, ALGEBRA, and GEOMETRY, as instruments of numeration and calculation.

GEOGRAPHY. The object of this science is to describe the natural and artificial boundaries of the different countries of the world, and their sub-divisions ; also to enumerate the towns, rivers, lakes, &c., which they contain. With these should be combined a description of the inhabitants, institutions, soil, climate, and produce of each country, and the relations of these to the objects and beings of other countries. Simple descriptive Geography addresses chiefly the intellectual faculties of Form, Size, and Locality : When enriched by the additions now mentioned, the science would interest the feelings and excite the reflecting powers.

NATURAL HISTORY embraces the description of all the objects of the mineral, vegetable, and animal kingdoms. In teaching it, the young should be trained to accurate observation of objects, and of their qualities, relations, and modes of action.

CHEMISTRY. This science expounds the minute composition of natural objects, and the proportions and laws of combination of their parts, with their modes of action. It affords striking examples of design, order, and invariable sequence,

in the constitution and modes of action of material objects ; and may be used to demonstrate to the young that the material world is actually and practically governed by Divine wisdom.

ANATOMY and PHYSIOLOGY. These sciences unfold the structure, functions, relations, and laws of the different parts of which organized bodies are composed. When to these elements of instruction is added information concerning the external circumstances, and also the modes and degrees of action of the organs, which produce health and disease, and the certain connection between infringements of these conditions, and pain and suffering, and eventually premature death ; the pupil may be led to comprehend that his health and life are, within certain limits, committed to his own discretion, and that the Divine power is constantly operating in and through his organs for his advantage and enjoyment, while he acts in conformity with the laws of his constitution.

NATURAL PHILOSOPHY treats of the qualities, relations, and modes and laws of action of bodies, apart from their chemical and vital phenomena. Like chemistry and physiology, it addresses in an especial manner the reflecting intellect of man, and is calculated to expand his mental powers. By increasing his knowledge of the scheme of creation, it puts it in his power, to a certain extent, to co-operate in the plans of Providence for his own improvement.

THE PHILOSOPHY of MIND. The objects of this science are the external senses, and the internal faculties of emotion, observation, and reflection. It can be studied successfully only by means of reflection on consciousness, and observation of the organs of the several faculties, and the influence of their size, age, health, disease, and training, on the mental manifestations. The mind of man, in so far as he is concerned, forms the centre to which the objects of all the other sciences are related ; and his deepest interest is involved in knowing accurately what these relations are, and how he may regulate his conduct in conformity with them.

LITERATURE, POETRY, PAINTING, SCULPTURE, and all the useful and ornamental arts, find their principles in the constitution of the human faculties, and their relations to the objects of external nature, and cannot be thoroughly and scientifically understood until these are comprehended.

NATURAL RELIGION belongs to Secular Education, and should aim at teaching the young to comprehend that the whole objects and phenomena treated of in the sciences, are the institutions of God ; that the relations of the human mind and body towards them are fixed and unalterable ; that the

whole are, to a certain extent, cognisable by the human faculties ; and that we are bound by duty to God, as well by a regard to our own welfare, reverently and diligently to study these, and to regulate our own conduct in conformity to their modes of action. Above all, the pupil should be *trained habitually to act* on the knowledge thus communicated to him.

I do not mean that all the arts and sciences should be taught to every child, in the manner and to the extent in which they are now expounded in our universities and higher seminaries of education. All I here propose is to unfold principles and views which may form the groundwork, and serve as guides to the practical evolution of a sound system of secular education. The details will be best reached after we have agreed upon the outline. If every teacher will view himself as commissioned to communicate to his pupils practical instruction concerning the order of God's secular Providence, and the *means* by which it is administered, and to train them to act in accordance with it,—the things necessary to be taught, as well as the best mode of teaching them, will speedily be discerned. If the reader will visit our common schools, and estimate the things at present taught and the modes of teaching, with this idea in his mind as his standard, he will speedily be able to judge to what degree they are fulfilling the object of training the young to act in accordance with the order of God's secular Providence. Even our churches may be submitted to the same test with advantage ; for they also profess to shew the way in which man should walk on earth, as well as to point out the gate that leads to heaven. Their *secular* instruction, therefore, must be perfect or imperfect, in proportion to its success in expounding the means by which we may discover and fulfil the requirements of God's natural laws.

The arts of reading and writing have hitherto been considered the chief elements of secular education for the people ; while Bible-precepts and catechisms have been viewed as constituting religious instruction. But, if the principles now expounded be correct, the imperfections of this curriculum will be obvious. Reading implies merely the knowledge of the written or printed artificial signs or words, by means of which any nation or tribe express their thoughts ; and writing is the forming of these signs ourselves. The signs do not convey their own meaning ; they are merely sounds and forms ; and we must be instructed in their meaning before we can derive any substantial benefit from them. Instruction in the objects, qualities, relations, and modes of action of the beings

and things which the words are employed to designate, should, therefore, go hand in hand with the teaching of words themselves.

In regard to religious instruction, again, the Bible constitutes the only directory recognised in Protestant countries concerning the mode of securing everlasting happiness. The object of the school for religion, therefore, may be held to be to unfold the means by which eternal interests may be best secured, and to train the young to practise them.

Although the Bible contains, as subservient to this end, numerous valuable precepts for regulating secular conduct, yet, not being intended to supersede the use of observation and reflection, it embodies no complete exposition of the special natural agencies by means of which the order of God's secular Providence is *now* executed and maintained. Moreover, it does not expound the arrangements in nature by which even its own precepts in regard to the duties and interests of this life are enforced and rendered practical. Hence secular instruction, such as is now recommended, is necessary to render practical the moral precepts even of the Bible itself. Every precept of the Bible, therefore, which has a counterpart in nature, and which is supported and enforced by the order of God's natural Providence, may legitimately be introduced into secular schools.

It is impossible, however, to draw a precise line of demarcation between secular and religious education, because, in point of fact, when we instruct children in the order of nature, and train them to reverence it, we teach them religion as well as science. Those doctrines only which rest exclusively on the authority of supernatural revelation, seem to belong peculiarly to the school for religious teaching.

It appears to me that it would be difficult to exaggerate the beneficial effects that might eventually be elicited from a scheme of secular education founded on these principles. The young—trained to direct their observing faculties to the study of the things and beings which exist, as instruction addressed to them by God, and their reflecting faculties to the study of the causes of natural phenomena ; and taught, moreover, to comprehend, that, to the action of these causes, certain consequences have been attached by Divine intelligence, which, at every moment, affect their own condition, and which they can neither alter nor evade, but to which they may, or may not, as they choose, accommodate their conduct—the young, I say, thus instructed and trained, might, perhaps, at last be enabled to comprehend that they are actually placed under a real and practical Divine government

on earth, and they might be led to feel some disposition to act in harmony with its laws.

The general soundness of the argument now maintained is supported by facts open to the observation of all. What is called the "common sense" of mankind, has induced them in all ages, in spite of the diversities of their religious creeds, to *act* on the foregoing views of the government of the world, so far as they have been able to comprehend them. They have generally believed instinctively in a Divine government, and at the same time in human freedom. They have endeavoured, when sick, to escape from disease and death by removing what they believed to be their causes ; they have pursued happiness by following what they conceived to be the natural roads that led to it ; and they have also acknowledged and approved of the consequences attached by nature to virtue and vice,—however far short they may have fallen, either in successfully warding off disease and death, in attaining temporal felicity, or in avoiding immorality. The doctrine, therefore, which I am advocating, would, if carried into effect, confer on common sense,—in other words, on the operations of our instinctive principles of action,—some degree of the clearness, consistency, fruitfulness, and utility of powers guided by science and religion, instead of leaving them to grope in the dark, and to act at hazard. Farther, many reflecting men are distressed by the discord which reigns between the popular expositions of religion and the obvious dictates of science. But the doctrine now advanced, by opening up comprehensible and practical views of the order of God's providence on earth, would enable them in some degree to establish harmony between their religious and scientific convictions. Again, by investing all God's secular institutions with that character of sacredness which truly belongs to them, it would add a new and an elevated motive to the intellect to discover and apply all natural truth.

I am well aware, however, that some persons may regard these views as doctrinally unsound. But is there no error in the religious opinions of such men themselves ? Must the minds of every succeeding generation in this great country be for ever cribbed and cabined in the dark formulas of the seventeenth century ? Will science not yet assert its own fountain to be in God ? Will man never venture to take his place as the moral and intelligent co-operator with his great Creator, in carrying into effect the secular objects of Divine wisdom and goodness ? If he will do so, let him shake off the trammels of bygone ages, rouse the mighty energies

that have been conferred upon him ; and, with his feet upon the earth, and his whole mind directed to God, intrepidly follow the beacon lights presented by nature to his reason, and fear neither disparagement to his Maker nor peril to himself while he travels in the paths of science, and adopts its revelations as assistant guides to his temporal conduct.

Above all, let not the laity, in their zeal for the holiest of causes, allow themselves to trample science under foot. It comes from God, and is addressed by Him to our intellects and our consciences for the guidance of our secular conduct. Let them not desert the standards of Divine truth unfurled on the fields of nature, in order to prostrate themselves before those raised by fallible men ; but let them embrace and reverence every truth in whatever record it is to be found.

REMARKS

ON

NATIONAL EDUCATION:

BEING

AN INQUIRY INTO THE RIGHT AND DUTY OF
GOVERNMENT TO EDUCATE THE PEOPLE.

BY

GEORGE COMBE.

"Sectarianism is not morality. To be zealous for a sect, and to be conscientious in morals, are widely different. To inculcate the peculiarities of a sect, and to teach the fundamental principles of religion and morality, are widely different. Indeed, schools might be named, in which there is the most rigorous inculcation of an exclusive sectarianism, where there is a deplorable absence of the fruits of both religion and morality."—*The Rev. Egerton Ryerson, in his Report on a System of Public Elementary Instruction for Upper Canada.*

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REMARKS ON NATIONAL EDUCATION.

THE public appear to be now nearly unanimous on the point, that the people *should be educated*; but considerable differences of opinion exist as to *who* should be charged with the duty of educating them,—the state or individuals? also whether combined religious and secular instruction, or secular instruction alone, should be given by the schoolmaster, leaving religious instruction to be supplied by the parent and priest. To communicate my views distinctly on these points, I find it advisable to begin with the very elements of the subject.

In the arguments generally maintained on these questions, certain views of the nature of man; of the origin and objects of society; of the powers and duties of government; and of the connection between practical morality, secular prosperity, and religious belief, are assumed by the various writers as settled doctrines, concerning which their own opinions are unquestionably sound; when, in point of fact, no adequate consideration has been bestowed on these topics, either by them or by those to whom they address themselves, and no common views in regard to them are definitely assented to by either. When the postulates of a discussion are thus involved in obscurity, and apprehended differently by different individuals, harmony in the conclusions is impossible. However widely, therefore, the reader may differ from some of the opinions now to be stated, few persons, I hope, will doubt the advantage of elucidating these fundamental points of the question.

This world, then, appears to me to be a vast theatre constituted for exertion; in which enjoyment is the natural consequence of industry, morality, and intelligence; and suffering that of ignorance, vice, and sloth. The constitution of the world, physical and moral, that of the human mind and body, as well as the relations between them, are fixed and determinate; and man becomes prosperous and happy in proportion to the degree in which his social institutions and per-

sonal conduct harmonize with these unchangeable elements of nature. Each individual of the race is born ignorant of every thing; but capacities are bestowed on him to learn all that is essential to his welfare. The mighty machinery of nature, physical and moral, is constantly revolving within him (in his own mind and body), and around him; and he cannot by possibility avoid experiencing its influence. To be prosperous, he must adjust his conduct and position to its action, and he cannot do so unless he know it; learn, therefore, he must, or suffer. Education means teaching the individual what it concerns him to know relative to his own constitution and that of the moral and physical world in which he is destined to live and act; and it includes *training* him to habits of action suitable to that destination.

The importance of teaching knowledge is evident; but the necessity for *training* is less understood. It arises from the dependence of the mind, in this world, on physical organization for its powers of acting. The brain is the material instrument by means of which the minds acts, and it consists of a variety of parts, each connected with a special mental power. It is subject to the same organic laws as the other parts of the body. If we should confine a man for the first twenty years of his life to a dungeon, without exercise and employment, we should find, on bringing him into the active world of light and life, that he could not see distinctly, could not judge correctly of the distance of objects by their sounds, could not walk steadily, and scarcely could make any exertion with his arms and hands. The cause of his defects would be found in the circumstance, that his organic structure had been left feeble and undeveloped through want of exercise; and that his various senses and muscles (which, although distinct in themselves, are all framed to co-operate and assist in prosecuting general aims) had never been accustomed to act in combination. Such a being, therefore, when first introduced into active life, would be helpless, bewildered, and unhappy.

The uneducated and untrained peasant is in a similar condition in regard to his mental organs. Not only is he ignorant, but his mental organs are dull, feeble, and incapable of continued exertion; and he, therefore, cannot think continuously, or act perseveringly. We may give him instruction, but it does not penetrate into his inactive brain, and it is not reproductive of thought and action. I have occasionally hired into my service individuals who have not learned to read and write, and the effects were most conspicuous. The ears heard, and the eyes saw, and the understanding appeared to

comprehend; but I soon discovered that the comprehension was imperfect and inexact, that the *retention* was momentary, and the power of reproduction, combination, and modification, almost *nil*. I lately conversed with an engineer and machine-maker who employs 120 workmen, and he told me that he had repeatedly taken into his workshop uneducated and untrained labourers with a view to teaching them some simple processes in his trade, but had found that the lesson of yesterday was not retained in the mind till to-day; that no spontaneous suggestion presented itself, even when circumstances rendered it evident to a trained understanding; and that their labour, in consequence, was without value in any department of skilled art. Their muscles had been trained to act, almost without the direction of their brains; and beyond labour which muscles could execute independently of intelligence, they were powerless.

Such is the intellectual condition of uneducated man. But the intellect constitutes only a small, although an important portion of the mind: Man is endowed, besides, with moral sentiments and animal propensities, depending, like his intellect, on cerebral organs for their powers of manifestation. Each organ is more or less capable of action in proportion to its size, temperament, and the *training* which it has received. In a rude and uncultivated condition of the intellect, the moral sentiments are left without stimulus and direction. These sentiments produce the emotions of benevolence and veneration, and the love of justice. Prosperous external circumstances, generally speaking, are favourable to their development. A man steeped in poverty and oppressed by want, finds his selfish faculties excited, and lacks not only moral stimulus, but physical means for practising the benevolent virtues. One buried in ignorance cannot exercise a well directed and enlightened veneration; and one in whom all the higher and disinterested powers of the mind are dormant, cannot be expected to comprehend the dictates of truth, or to practise the principles of justice.

But the third class of faculties, the animal propensities, are not equally quiescent in the uneducated individual; because, on their prompt action, the preservation of life and the supply of our bodily wants have been made by nature immediately to depend. The external objects which act as their stimulants, everywhere abound. The struggle for food, raiment, and shelter, in which the uneducated man is, in the general case, constantly engaged, calls forth his Combative-ness and Destructiveness, his cunning and his obstinacy,

into abiding activity ; it *trains them* to vigour, and renders them prompt to action.

Such, then, is uneducated man, in his general condition. I speak, of course, of average individuals, for there are persons born in all ranks of life whose inherent superiority of mind enables them triumphantly to surmount every adventitious obstacle to their development and elevation. These, however, are few in number ; and as nature has rendered them, in a great measure, independent of social aid, they do not form the objects of our present consideration.

Let us next consider *society*, and its origin and objects. I regard society as the direct offspring of the inherent faculties of man. Some species of animals are gregarious, that is to say, have received from the God of Nature certain feelings which render the presence of their kind agreeable to them ; and to this category belongs man. Many of our faculties have intelligent beings for their direct objects ; and all of them are adapted to a condition of social life. Not only so, but also the grand outlines of the social state of man are determined by the fiat of the Creator. Individuals differ *naturally* in bodily strength and in mental energy ; and in these differences a foundation is laid for diversities of social rank and condition—for the existence of the rich and the poor, of the governing and the governed. In order correctly to understand human nature, therefore, we must regard man as an *individual* being, seeking his happiness in the gratification of his faculties ; but high in the list of these we must place his social powers, which are as certainly inherent parts of his mental constitution as the most important of his selfish feelings.

Government springs from the social faculties. Living in the social state, necessarily implies that there are interests and duties common to all the members of the tribe. Gregarious animals place sentinels to warn the herd or flock of dangers, and choose leaders to guide them. Among men, the ruling power, in its proper form, consists merely of certain members of the associated mass selected by the rest to attend to the common interests of the whole, and to enforce the reciprocal duties incumbent on the individual and the community. General consent of the members selects the Rulers, and lends them the power of the social body to execute their functions. History tells us, indeed, that, in many states, strong and energetic individuals have constituted themselves masters and transmitted their power to their descendants, irrespective of the will of the community ; whence notions have grown up of the right to govern being inherent in certain families,

independently of the will of the people : but these were usurpations disavowed by reason, and such claims are not now made by the rulers of any constitutional state, and certainly not by the Government of England.

In determining what are the rights of individuals, and what the powers of Government, our best guide is still the nature of man. Man subsists necessarily as an *individual* : He has received from his Maker certain powers of action and enjoyment, and been placed in a world adapted to his constitution. He has a right, therefore, derived directly from God (who called him into existence, and provided the world for his reception), to the full enjoyment of all his powers and capacities, but under two restrictions ; *1st*, that he shall not transgress the laws which Divine wisdom has established in his own and in external nature for their regulation ; and, *2dly*, that he shall not convert his individual enjoyments into sources of annoyance to his fellow-men, who, from the necessity of his and their being, must live with him in society. God, in his government of the world, enforces the first restriction by punishing the individual with loss of health for abuse of his corporeal functions, and by misfortune and misery for neglect or abuse of his mental powers. The *duty* and the *right* of Government is to enforce the second restriction, viz., to see that the individual, in pursuing his own happiness, does not invade that of his neighbours.

These premises enable us to draw certain conclusions regarding the right of our Rulers to interfere in the education of the people. In the first place, it follows from them, that if any man chooses to renounce all connection with and dependence on society,—to go forth from the haunts of men, and neither live among them, accept their aid, nor tender them his contributions, physical or mental,—he has an undoubted right, so far as society is concerned, to indulge *all* his faculties in his own way, because he commits no offence against society, and causes it no injury. He commits, indeed, a great offence against his own nature, which the Creator expressly designed for social life ; but Nature herself, without the interference of man as an avenger, has provided ample punishment for that offence, by the deterioration of his social nature, and the deprivation of all social enjoyments, consequent on solitude. Betake himself to what solitude he will, he cannot escape out of the presence of God, or withdraw himself from the influence of *His* laws, which are woven into the texture of his body and mind, and inscribed on every breath of air, and every foot of ground. By their means, the Creator will inflict on him the precise kind and degree of

punishment which his conduct merits, and which will best serve to recall him to a due estimate of the privileges which he contemns.

But when an individual prefers to avail himself of the advantages of living in society, of the physical protection which other men's skill and courage afford, of the social pleasures which their intelligence and attainments present, and above all, when he claims their sympathy, support, and relief in sickness and in old age—which every man living in society virtually does—he becomes bound to perform his duty to it in return; and society acquires a *right* to enforce the performance of that duty, as the fundamental condition on which it allows him to reap the benefit of its arrangements and institutions.

What, then, are the duties which the individual owes to society? His first duty, in compensation for the advantages it confers on him, is obviously to acquire bodily habits calculated, according to the laws of organization, which neither he nor society can alter, to preserve himself in health, that he may be fitted for his allotted sphere of action, and may avoid diffusing disease by infection around him. It is on this principle that society has the right to enforce the ordinary regulations of police in towns. It ordains every citizen to put forth from his dwelling all refuse and noxious substances, and employs men to collect and carry them away. This is not done in the country, because there, individuals who neglect this duty, injure only themselves and their domestic dependents. The same principle will authorise the enforcement of still higher hygienic regulations in towns; and, in point of fact, the statute 9th and 10th Victoria, c. 96, recently passed, authorises the magistrates of towns, on receiving a certificate signed by two duly qualified medical practitioners, "of the filthy and unwholesome condition of any dwelling-house or other building," to *compel* the person complained of to abate the nuisance within two days. But I may go further in the same direction. The individual who claims the benefits afforded by an advanced and intelligent state of society, is bound to qualify himself, according to the endowments bestowed on him by Providence, for acting well his part in that society. In a society which is moral, he has no right to continue publicly immoral; because this is not only offensive, but directly injurious to his fellow-men: he is not entitled to remain ignorant and untrained; because in that condition he is incapable of performing his due part in the grand social evolutions, the beneficial results of which he claims a right to share. Before he can consistently deny the right of society to train and edu-

cate his children, he must shew his own title to make the following announcement, viz., "I decline to undergo the fatigue and discipline necessary to render my brain active, in order to fit myself for skilful labour, and for applying my labour to the best advantage; I decline to learn to read and write; I decline to be instructed in, or to conform my conduct to, those conditions in the physical and moral world, which, by the ordination of God, are productive of prosperity and happiness; and I decline to regulate my conduct by what you call the laws of morality and reason; all this I decline, because I am a free and independent man, and because it would be irksome to me to submit to such training, instruction, and restraint;—nevertheless, I claim the right to throw myself with all my incapacity undiminished, all my ignorance unilluminated, and all my passions unregulated and untamed, upon the bosom of society: I insist that its members who *have* cultivated *their* faculties and reaped the natural rewards of that cultivation, in the possession of morality, intelligence, and wealth, shall bear the burden of my incapacity, of my recklessness, and of my follies; that they shall minister to me when sick, and feed me when my unskilled labour, in competition with their skilled labour, does not suffice to supply me with the necessaries of life; and that they shall provide for my wife and children when, through ignorance and vice, I sink into a premature grave."

This embodies, not a rhetorical, but a *literal* statement of the demand which the untrained and uneducated labourer, who denies the right of society to insist that himself and his children be trained and educated, makes on his fellow-men; and I leave those to defend it who abet him in that denial. The man who claims the benefit of a poor-law, actually demands from society all that I have now mentioned; and, unquestionably, we are entitled to say to him,—“Before you can legitimately claim ignorance as the sacred birthright of yourself and your offspring, you must shew your emancipation from the laws of God, which connect want with incapacity, misfortune with ignorance, misery with immorality, and disease and premature death with habits of filth, sloth, and intemperance.” If the man admits that he continues a subject of the Divine government (and unless he be mad he will not dispute this point), he cannot, with any show of reason, contest the right of society to train and instruct him and his children to that degree which shall render him and them moral and intelligent agents, fit to play their parts in the society of which they claim to be members.

The question here presents itself, *What kind and degree of*

knowledge has society a right to insist on its members acquiring? The principles already stated will enable us to answer this question. The individual has a right to the most perfect freedom of thought and action in regard to every thing which does not directly or indirectly affect the welfare of other men. To come at once to the grand point of controversy on the subject of national education—society has a right to insist that he shall be instructed and trained in whatever is necessary to fit him for the discharge of his duties as a member of the community in which he lives ; but, in all beyond this, the individual has a right to unbounded liberty of self-determination as to what he shall learn and what he shall not learn. He has no right to continue filthy in his habits ; because this may induce disease and infect his neighbours. He has no right to continue grossly ignorant ; because in this state of mind he is unfit to regulate his passions, to act with a rational regard to his own and the public welfare in the circumstances in which he is placed, and also to apply his natural powers in that kind of labour by which alone he can subsist in a society composed of intelligent and skilful men, on whom he has no right to throw the burden of his incapacity. But he has a perfect title to decline to study poetry, or rhetoric, or painting, or sculpture, if these be distasteful to him ; because his remaining ignorant of these accomplishments can carry no direct harm to his fellow-citizens. In the former category—that of things which he is bound to learn, because his ignorance of them is injurious to society—I place a knowledge of moral duties ; and, in the latter, I rank those religious doctrines the foundations of which rest *exclusively* on supernatural communications.

I recognise explicitly the importance of *religion* to the welfare of society and to that of the individual. Active religious feelings dispose a man to venerate and submit himself to those moral and physical laws instituted by the Creator, on which his own happiness and that of society depend. They prompt him also to adoration and gratitude, emotions highly influential in the right ordering of human conduct. But under the head of what is generally called religion, are included doctrines and precepts which God has already forced on our acceptance by the clear order of nature in this world, and other doctrines of which the human understanding, unenlightened by revelation, is incapable of gaining a competent knowledge. In regard to the former, nature and Scripture coincide, and speak one and the same language ; whereas nature is silent, or so obscure as not to be practical, in regard to the latter. It appears to me, that Government, as a secular in-

stitution, has a right to insist that its subjects shall be instructed in every species of knowledge, and trained to every mode of action, which directly affects the welfare of society, and which is prescribed as a duty, equally by Scripture and by the natural laws of the body, of the mind, and of the external creation.

The laws of health, industry, and morality, are thus enacted by the Creator, and are universally prevalent. In Christian Europe, in Mahomedan Asia, and in Pagan Africa, the individual who neglects cleanliness, who lives in bad air, and indulges in vicious habits, ruins his health, whereby he may become a focus of infection, and incapacitate himself for the discharge of his social duties ; he who is ignorant and reckless of the moral law becomes a scourge and affliction to his fellow-men ; and he whose intelligence is so limited that he is incapable of acting successfully a part in the social evolutions amidst which he lives, is in constant danger of becoming a burden on their industry, and of throwing on them the evil consequences which God has attached to his ignorance and incapacity.

The religious sentiments are inherent in, and important elements of, the human mind : they act with great energy, and lead to stupendous consequences of good or evil, according as they are well or ill directed. It appears to me that they may with great advantage be directed towards the support and enforcement of God's laws written in the book of creation, as well as of those written in the Bible. This opinion is entitled to the greater weight, when it is considered that no law is laid down to man in the Bible for his guidance in temporal affairs, which is not also inscribed in the book of nature ; and that, in point of fact, it is the support which the scriptural precept receives from the agency of nature that renders it practical. The Scripture, for example, commands temperance in all things ; and it can be demonstrated that, according to the laws of organization, intemperance in food injures the health ; intemperance in drinking incapacitates the mind ; intemperance in ambition blinds the understanding and leads to ruin ; intemperance in study exhausts the brain and deranges the mental functions ; and so forth. In my work on "The Constitution of Man," I have given illustrations of this doctrine ; and in my Lectures on "Moral Philosophy," I have endeavoured to shew that the Ten Commandments are as clearly inscribed in the natural constitution of man, as they were on the tables of stone delivered to Moses ; and these are only examples which

might be multiplied to the full extent of scripture-teaching relative to temporal affairs.

The principle now stated, that scripture-precepts regarding temporal duties cannot become practical unless supported by the order of nature, deserves consideration. It goes deep into the merits of secular and religious education. Suppose, for example, that the order of nature had connected health, mental energy, and temporal prosperity, with *intemperance*, and that the scriptural injunction, "Be temperate in all things," had rested solely on the authority of Scripture, and its only sanction had been the announcement of eternal punishment as the *future* consequence of disregarding it,—what chance would the cause of temperance have had for success in this world? Obviously, very little. This conclusion is supported by the fact, that the plainest precepts of the Bible continue to this day to be utterly disregarded in practice by individuals and nations who believe unhesitatingly in their Divine authority, but whose understandings have not yet discovered that they are supported also by the order of nature. The precept, for example, "Love thy neighbour as thyself,"—"all men are thy neighbours,"—directly involves the principles of free-trade; but its practical application in this form was resisted, and continues to be resisted, by individuals and nations who admit its Divine authority, but do not yet perceive how this application of it can be rendered compatible with their temporal welfare. The "League" succeeded in having it carried into practical effect, only by convincing the English people that the order of nature was such that they might safely obey the precept, not only without temporal injury to themselves, but with positive advantage. Then, and not till then, they yielded obedience to what the Scripture had commanded them to do for eighteen hundred years, but commanded them in vain.

As a contrast, I may notice the Scriptural precepts, "I say unto you, that ye resist not evil; but whosoever shall smite thee on thy right cheek, turn to him the other also; and if any man will sue thee at the law, and take away thy coat, let him have thy cloak also" (Matthew, v. 39, 40.) The constitution of the human mind does not sanction these precepts when understood in their literal sense. Nature has bestowed on us a love of life, and a sentiment of self-respect, which render injuries and insults disagreeable; she has added sentiments of Benevolence, Veneration, and Conscientiousness, which proclaim that the infliction of injury and insult is wrong; but as she foresaw that some men might disregard these moral restraining powers and become aggressive, she

added combative and destructive propensities to the mind, one of the legitimate uses of which is to repel, by force, unjust attacks on our persons and our rights. The law of nature, therefore, is, that injury and insult *must be restrained*,—by moral influence if possible, but if not, by physical force ; and accordingly the words of Scripture have been practically thus interpreted, and those sects who have endeavoured to act on their literal meaning have not succeeded in commending their principles of non-resistance to general acceptance.

If the constitution and arrangements of nature in which our secular duties are inscribed, and by means of which they are enforced, were presented to the understandings of the young as Divine institutions, and if their sentiments of Wonder, Veneration, and Conscientiousness, were trained to admire, reverence, and obey them, these duties would, in their minds, become *principles of religion*, as well as of morality and prudence. Their practical efficacy would be increased by the combined forces of the understanding, of the moral sentiments, of the religious sentiments, and of the selfish principles of our nature, all co-operating ; for, when all these were satisfied in regard to their Divine authority and practical utility, they would naturally unite towards their enforcement. No doctrines or precepts, relative to secular duties, that rest upon and are addressed to the religious sentiments exclusively, or even chiefly, can operate with an equally powerful and beneficial effect. If they do not satisfy the understanding, or the moral feelings, or the selfish elements of the mind, they lose in practical efficacy in proportion to the faculties which they leave uninterested. The Christian religion abounds in precepts which rest on all these foundations, and hence its practical power. The superstitions of the ancient world, and of modern heathenism (however deeply they may excite and interest the religious sentiments of their votaries), fail to satisfy the understanding and the moral sentiments, and to promote the temporal happiness of those who believe them ; and hence their practical inefficacy for good. They are disowned by nature, and cannot yield the fruits of purity, prosperity, and peace.

So far, therefore, from the Divine laws in regard to secular rights and duties having their only foundation in Scripture, the proposition should be modified to the effect, that they have a foundation also in nature, and that it is their conformity to, and enforcement by, the order of nature, which renders them practical ; and this seems to authorise the conclusion that the State has a right to teach to all its subjects

the order of nature by which the practical doctrines of religion are supported and enforced.

Let us now consider the question, Has the State a right to educate all the faculties of man? We have already answered that it has a right to train and educate every faculty to the extent to which its action is necessary to enable the individual to discharge his social duties, and no further. It is entitled to train Veneration, for example, to respect and yield obedience to every scriptural precept and every natural law which directly affect the welfare of the social body;—but has it a right *to force* men to embrace and venerate any doctrine which has its issues only in a future state of existence? Society, such as we see it, does not exist beyond the grave. Therefore, only individuals in their individual capacities are concerned in matters of eternity; and on this subject, their birthright is entire freedom of judgment and opinion.

The depth and magnitude of that interest is sufficient to secure an extent of teaching of this class of religious doctrines up to the full demands of the faculties; but no amount, however unlimited, of such teaching, necessarily implies or secures instruction in temporal duties. Assuming that, during the last century, the Roman Catholic clergy in Ireland have taught their people religious truth sufficient to secure their eternal welfare, it is certain that they have not instructed and trained them, to an equal extent, in that knowledge of this world and its laws, which produces prosperity and happiness. It is this latter species of knowledge which it is the right and the duty of the State to provide for the people; because it applies directly to interests falling under the management of the State, and the absence of it, as we now see and feel in regard to Ireland, cannot be compensated by purely religious teaching. Ireland demonstrates to us that the want of instruction in the order of nature aggravates all natural calamities, and impairs all natural blessings, to the great damage, not only of the individuals whose training has been neglected, but of every member of the community who has sympathies to feel for human suffering, or a purse to provide for their removal.

It is often argued, however, that the voluntary efforts of the individual members of society afford a better means for the supply of education for the whole people, than any compulsory arrangements of the State, and hence it is denied that the State has a right to educate its people.

There is a practical fallacy, however, in the manner in which this question is generally submitted to our considera-

tion. In every free country the State is merely the representative of the general power (physical, moral, and intellectual) of the country. It is not a distinct and independent being, that can exist and act in spite of the will of its members. Any system of military defence, of police, of law, and also of *education*, which the State can establish and maintain in this country, must be approved of by the intelligence of the empire. Nobody contends that the Government has a right, despite of the will of the people, to seize on public education. All that is maintained is, that the Government may do the work better than individuals; and our security against the abuse by Government of its delegated powers lies in the control over the conduct of Parliament and the executive, which the individual members of the community are capable of exercising, through the elections and the press. We do not leave the defence of the country and the police of our great towns to the voluntary administration of individuals; because the majority of society is agreed that these objects can be better accomplished by committing them to the State. And the case will be the same in regard to education. Its direction cannot be assumed by the Government until the majority of the public shall have become satisfied that it is best fitted to conduct the operations. The capricious or negligent administration of the means of public defence, or of police, would endanger the welfare, not only of those who erected themselves into the voluntary managers of them, but of those who differed from their views, and considered their course of action unwise and detrimental; and it is on this principle alone that Parliament gives to the executive the right to take these affairs into its own hands. In like manner, whenever the majority of society shall become satisfied that individual teachers, sects, and incorporations, have so neglected or mismanaged public education, as to endanger the welfare of the State, they will (without limiting the right of individual action in so far as this is compatible with public safety) provide public institutions for the better accomplishment of this important end.

Has such a case actually occurred? In answering this question, it is necessary only to look at the mental condition of the inhabitants of these islands to discover that education has hitherto been grievously neglected and mismanaged. The extent of ignorance, vice, helpless incapacity, crime, and suffering, which abound, and which are more or less referrible to the low physical, moral, intellectual, and religious training and instruction of the people, is a point of too painful certainty to be disputed. This fact itself is sufficient to war-

rant men of reflection in requesting and empowering the State to try whether it cannot manage education better. But other and solid reasons may be discovered for the failure of the voluntary efforts which have hitherto been made for the education of the people—reasons which may tend to justify us in committing it in future to the Government.

The kind of instruction which it is the direct interest of society to communicate, is that which relates to God's laws and mode of administration of man's temporal condition. The statesman placed in an elevated position, and entrusted with the welfare of all classes, sects, and individuals, has natural advantages for discovering what these laws are, for appreciating their social importance, and for applying them, which no private individual, sect, or class, can enjoy. He is in a position to discern, with a keener eye and a surer sagacity, what instruction is equally beneficial to all, than the man in the crowd surrounded by objects which contract his vision, and invaded by interests which bias his judgment. I say that, *ceteris paribus*, the statesman is better able than the individual citizen to direct beneficially this complicated and difficult branch of the public interest. Besides, his ear is open at all times to the admonition of individual wisdom, and his conduct is subject to the unlimited control of the parliamentary constituencies.

I am prepared for the charge being made, that this is a proposal to constitute infidelity the basis of national education; because the order of nature, even when coincident with and sanctioned by Christianity, is regarded by some minds as infidel. But I deny that teaching the precepts in which the order of creation and Scripture coincide is infidelity. Those who contend that it is so, forget that in this view God himself would be the author of a great system of infidelity; for the whole Jewish dispensation was one which had its sanctions exclusively in its temporal consequences. No futurity was revealed to the Jews: The supernatural portion of the Jewish Dispensation related chiefly to the nation in its national capacity, and in the opinion of some Christian sects it is continued to the present day. These sects regard the existence of the Jews as a distinct people, unamalgamated with the races among whom they are dispersed, as a standing miracle. But we do not perceive the personal conduct of the individual Jewish men and women whom we know, to be now regulated by supernatural acts of divine administration; and is there reason to believe that even before the dispersion, a miracle was resorted to, in order to reward or punish each private Jew who obeyed or transgressed the commandments?

If a future state was not clearly revealed to the Jews, and if their personal conduct was not formerly, and is not now, regularly rewarded or punished by supernatural acts in this life, it seems to follow that, in their individual capacities (when not reached by the statute law), they were, and are, left under the ordinary administration of the laws of nature; and if so, on what principle can education in these laws be called "godless?" Besides, no one proposes to exclude the teaching of the Scripture doctrines relative to eternity. All that is recommended is to provide for the teaching of these to the children of each sect according to the views and wishes of their parents, at separate hours, and by separate teachers from those engaged by the State. Let us view the consequences of acting on *different* principles.

Most churches and religious associations avowedly constitute belief in certain religious doctrines, the chief importance of which is their efficacy as means for securing happiness in a future life, as the indispensable condition on which they will teach that knowledge which relates to this world alone. But as many individuals differ regarding these points, the condition of believing them excludes thousands from the schools, while the State cannot afford to allow any of its children to be barred out from secular instruction. This is one reason why the State should be entrusted with the charge of secular education for the benefit of all.

Again, certain sects regard belief in the dogmas accredited by them as the only stable foundation, not only for religious, but for secular education; and, on this account, insist on rendering the teaching of their own dogmas paramount to all other instruction; and not only so, but, proceeding on the same ground, they claim also the exclusive control of schools. If their doctrines actually formed the only sound basis of secular education, their pretensions would be irresistible. But there is an important error in this assumption, because, as already maintained, there is no practical precept in the Old or New Testament relating to human conduct in this life, which is not contained also in the book of nature, and enforced by the natural order of Providence; and I repeat, that it is their conformity to, and enforcement by, nature, which really give to scriptural precepts their practical efficacy. Very few sects recognise this important truth, and we look in vain, in most of their schools, for an avowed, clear, and systematic teaching of the order of nature on which temporal prosperity depends, as part of Divine revelation for the guidance of human conduct. So much the contrary, that before some sects will receive a child into one of their schools, his

parents must consent to their teaching him,—that human nature is disordered by the fall,—that all mankind are liable to eternal perdition in consequence of Adam's first transgression,—that the Godhead consists of three persons,—that Jesus Christ is one of them,—and that he atoned for our sins by suffering in his own person the punishment which was due to them. If the truth and efficacy of all the precepts delivered by Jesus Christ, relating to those portions of human conduct in which society is directly interested, depended exclusively on our believing these views of his character and work, these sects would have reason on their side; but, on the other hand, if the practical efficacy of these precepts depends on their conformity to the constitution and order of nature, and not on our belief or disbelief in certain interpretations of Scripture, the case is altered, and it becomes pure tyranny in sectarian men to deny instruction in the temporal order of Providence, to children whose parents do not embrace their doctrinal views in relation to eternity.

They will probably reply that they leave parents who do not approve of these doctrines to open schools for their children on their own principles. This, however, is just one of the evils which the advocates of State education desire to avoid. The powers of nature are paramount active agents, from the influence of which neither prince nor peasant can escape; and hence God's natural laws relative to this world are equally applicable to all sects and to all nations, in all times, and they are expounded as such in the Bible. By adopting them as the basis of general education, the State may succeed in having *all* its people trained in *one set of practical principles*, resting on the common basis of the order of nature, and, therefore, admitting of unanimity and co-operation. While each sect founds its secular instruction on the basis of its own interpretations of Scripture, this advantage cannot be obtained; and, in consequence, not only is society rent by religious dissensions, but its power of co-operation for practical improvement is greatly paralyzed. We see the result of this state of things before us at the present time. While discordant sects dispute whose doctrines shall form the basis of secular education, many of the people are allowed to grow up in heathen ignorance, and too many of those who are educated, are fierce partisans of peculiar dogmas, contemning and reviling all propositions to teach the order of nature, as rank infidelity! Our boasted freedom of religious opinion is, and must necessarily continue to be, a mockery, while each sect is striving for supremacy, and there is no common arena in which all can meet and recognise one

God, and one order of nature. This, therefore, appears to me to be another reason for committing secular education to the charge of the State.

We are told, however, that this proposed separation of secular from doctrinal religious teaching, is "a gigantic system of godless education." With great deference to the excellent individual who uttered these words, the case appears to me in a different light. Apparently, he and his followers who have adopted this opinion, have looked so long and so intently on the Old and New Testaments, that they have lost sight of, or never attentively studied, the record of God's Natural Providence. If, for instance, we comprehend the structure and functions of the nervous system in man, and the vast amount of enjoyment of which it is the appointed vehicle when duly administered, and the extent of suffering which it entails on him when its laws are neglected or transgressed, and perceive that this is the workmanship of God, and that in this structure and its laws He is addressing our Wonder, calling on us to admire,—our Veneration, desiring us to reverence,—our Conscientiousness, commanding us to obey,—and our Intellect, inviting us to study, prove, and practise, what He has revealed; and that He rewards us with health, strength, and enjoyment, for obedience, and punishes us with bodily and mental pain and incapacity, and often with death itself, for infringement of his precepts,—THIS IS RELIGION AS WELL AS SCIENCE. How any man of a serious and an enlightened mind can study and comprehend God's natural laws without having his religious sentiments vividly excited, I cannot comprehend. Is it not an abuse of terms to call that education "godless," which refers *all* that it teaches, directly to the power, wisdom, and goodness of God himself? In no sense of the words is the study of natural knowledge and its practical applications, a "godless education;" because it cultivates, trains, and enlarges, the self-same faculties, by means of which the grander doctrines relative to man's future destinies must be studied and apprehended.

The opinion that religion and morality are revealed only in the Bible, and that science is "godless," has led to great practical evils. Not only has the religious world too much neglected the teaching of science as the basis of conduct, but the men of science have too much overlooked the religious element with which all science is imbued. One hears in many pulpits God's terrestrial creation, including man himself as he naturally exists, decried and degraded; while, in the halls of science, we may study for years without hearing God referred to as the fountain of the truths expounded, or any

practical inferences drawn regarding what they teach concerning His will. Many divines are either too intent upon the truths of Scripture to study and appreciate Nature and her record, or they are jealous of her. There are, indeed, enlightened exceptions to the truth of this remark, but I speak of the general character of pulpit teaching. The man of science, on the other hand, although not ignorant that he is expounding the "doings of the Lord," is yet too little alive to the practical nature of the truths which he unfolds, as guides to human conduct; and he is also afraid of trenching on the domain of the divine, and perhaps of teaching something which the latter might regard as not altogether doctrinally sound. He will thrill our highest faculties by his descriptions of the stupendous magnitude of creation, and demonstrate to us one God, and one law, ruling in every sphere. After having stretched our imaginations to their utmost limits, and deeply excited our wonder and veneration by these solemn gigantic truths, he will direct our attention to the smallest insect, and shew us the same power, wisdom, and skill, employed in combining and regulating the minutest atoms of matter to constitute a living and a sentient being. Our souls expand and glow under such contemplations. But here the man of science too generally leaves us. He either does not perceive, or is afraid to announce, how the truths of science bear a direct relation to the human mind and body, and prescribe certain courses of practical action or restraint. Every function of the body, and every faculty of the mind has probably received from the Creator a sphere of action, as certainly defined and as wisely appointed as is the orbit of every planet. Each is liable to aberrations by the disturbing influence of the other powers; but limits are prescribed to its deviations, and counteracting forces are instituted to draw it back into its normal course. Sound expositions of these laws of mind and body constitute at once science, religion, and practical wisdom; yet how rarely are the teachings of science thus applied! Scientific discoveries are employed with promptitude and vigour to increase wealth, to improve the arts of destruction, and to augment our sources of recreation and amusement (all proper in due season and proportion); but they are too much shut out from the school and the pulpit as rules for human conduct, and themes for human devotion.

It is true that in interpreting the Book of Nature, as in construing the Bible, many difficulties will present themselves that are inexplicable in the present state of our knowledge. They perplex our moral sentiments, and confound our understandings. But we should not on this account reject or un-

dervalue such truths as are clearly revealed in either record. The same Divine Intelligence which appointed the order of nature, constituted the human faculties; and as we meet with no discordant design in those departments of the universe with which we are sufficiently acquainted, we may fairly believe that, in the scheme of creation itself, there is no real incongruity; and that the apparent instances of it which we perceive, will diminish in proportion to the advance of our information. At one time the aberrations of the planets from their orbits were considered to be incompatible with the permanence of their revolutions, and the solar system was supposed to contain within itself the elements of its own destruction; but advancing science has demonstrated that these aberrations themselves are exemplifications and fulfillments of the laws which regulate the normal movements of the spheres. A profounder conviction, therefore, of harmony, in the design and revolutions of the heavenly bodies, has taken place of the doubts previously raised by imperfect knowledge. If men could be induced to regard the mundane creation in this disposition of mind, science would no longer be called "godless." If they would believe that when God instituted the external world, and the human mind and body, He adapted the one to the other with the same consistency of design and transcendency of wisdom which we discern in his arrangements of the planetary system, we should consider the Book of Nature as replete with instruction, in regard to the objects and employment of all our faculties; and we should call *that* instruction *religious*.

It is this unfortunate blindness to the essentially religious and moral character of science and its applications, and the fear of infidel consequences, that prompt the Church so doggedly to keep watch over the gates of the universities, and to refuse admission to every man as a teacher, who does not swear to his belief in all her doctrines, not only regarding man's conduct in this life, but in reference to eternity. Nevertheless, a law of faith and practice is written in the constitution of Nature which men may partially, but can never wholly, overlook. Being woven into the texture of their existence, it forces itself upon their attention, and exacts their obedience. In the ordinary affairs of life, Jew and Gentile, High Churchman and Low Churchman, Believer and Infidel, act upon the same principles of prudence and morals; they view any practical measure as good or bad according to its influence on their temporal happiness, irrespective of its relations to the different religious creeds which they severally embrace. They act on what is called the principles of "common sense;"

the familiar name given to the practical judgments which we form from all that we know regarding nature, animate and inanimate, and the course of providence by which this world is governed. This knowledge, traced to its principles, and systematized, is science; and as mankind, both in their individual and social capacities, practise upon it, without reference to its relations to their religious opinions regarding eternity, it is to be regretted that certain religious sects oppose that systematic teaching of it which would render it much more efficacious for good, unless it be accompanied by their religious tenets which have no *natural* connection with it. They have succeeded in impressing the public mind with the belief that this science, on which, when unsystematized, they themselves and every one else act, under the name of the "dictates of common sense," has no solid basis except that which their religious tenets lend to it; whereas it derives its whole efficacy for good from its foundations being laid in nature; and it is in virtue of the power which it thence derives, that it controls and gives consistency to human actions amidst the wildest conflicts of religious creeds.

The extent to which science is banished from the University of Oxford (in which belief in the Thirty-nine Articles of the Church of England is insisted on as an indispensable condition before her halls can be opened to the student), may be judged of from the following extract from Mr Lyell's *Travels in America*, lately published:—"After the year 1839," says Mr Lyell, "we may consider three-fourths of the sciences still nominally taught at Oxford, to have been virtually exiled from the University. The class-rooms of the Professors were, some of them entirely, others nearly, deserted. Chemistry and Botany attracted, between the years 1840 and 1844, *from three to seven students*; Geometry, Astronomy, and Experimental Philosophy, scarcely more; Mineralogy and Geology, still taught by the same Professor who, fifteen years before, had attracted crowded audiences, *some ten to twelve*; Political Economy still lower; even Ancient History and Poetry scarcely commanded an audience; and, strange to say, in a country with whose destinies those of India are so closely bound up, the first of living Asiatic scholars gave lectures to *one or two pupils*; and these might have been absent, had not the cherished hope of a Boaden scholarship for Sanscrit induced them to attend." It has been added, that the Geological Professor lectured, during his last course, to a class of *three*. What notions of the relative importance of the Thirty-nine Articles of the Church of England, and of God's physical, moral, and intellectual creation, can be enter-

tained by men who place the former so high above the latter in reverence and honour? It is obvious that the idea that the constitution and laws of creation are addressed to the intellect of man as rules for his practical conduct, and stimulants of his devotional feelings, can scarcely have entered into their imaginations: and still less can they have formed a conception of the fact that the Christian precepts can become practical in this world only in proportion to their harmony with the constitution of this, in Oxford, despised and neglected nature. Well might Sir Robert Inglis, their representative in Parliament, designate the study of science, apart from the Thirty-nine Articles, as "a gigantic scheme of godless education;" for apparently the University considers Nature to be infidel, God's works to be "godless," and only the Thirty-nine Articles and certain kindred studies to constitute religious instruction!

I solicit the attention of the reader to those views, because the present practice is replete with grave injuries to society. The notion that morality and religion rest *exclusively* on the Bible as their basis, has produced something like a divorce, not only between religion and science, but between religion and literature, religion and legislation, religion and history, religion and the drama; and left religion in a kind of ideal desert, from which she ever and anon issues to disturb the march of human affairs. Generally speaking, a foreigner might peruse the works of many of our standard authors, study our statute-book, and read our plays, without discovering that we possessed any religion at all; except when he met with enactments and controversies, directly relating to the church and the dissenters. He could find no consistent religious principle pervading, animating, blending with, and hallowing, these productions of the human mind. This could scarcely have happened if the constitution of nature and its relations, of which these works are meant to be expositions or applications, had been taught to the nation as of Divine origin and enactment. But it is easily accounted for when we attend to the fact, that, a few centuries ago, the knowledge of nature and its laws was even more imperfectly developed than it now is; that at that time classical literature, and theology, relating greatly to a future state of existence, and resting for its evidence not on nature, but on acts of supernatural power setting aside its established laws, constituted the chief learning of Europe, and took possession of schools, universities, and the public mind; and that this literature and theology have retained their sway over these institutions and society ever since, without cordially inquiring

into the moral and religious claims and character of science ; without modifying their own tenets into accordance with her increasing lights ; without throwing over her the mantle of their refinement and sanctity for her encouragement and protection ; but, on the contrary, too frequently vilifying, opposing, and paralyzing her by every means in their power.

The result could not be other than that which we see ; Science "godless," although emanating from and teaching most eloquently and impressively the "wisdom of God ;" and Religion by far too powerless in the secular affairs of the earth, because not acknowledging this world's constitution in its own basis, but substituting in its place doctrines and tenets, the grand object of which is to propitiate an interest in eternity. Religious persons, distressed by the "godless" character of our periodical and other literature, have established rival works, in which they endeavour to blend their doctrinal tenets with secular affairs ; but they do not succeed. In point of fact, they place doctrinal disquisitions in juxtaposition with secular knowledge, without uniting them ; and for the simple reason, that, as taught, they are incompatible. The sectarian world, especially the Calvinistic sects, must view nature in a light widely different from that in which they now regard it, before they shall be capable of blending religion and mundane interests harmoniously together.

Another evil attending the prevailing views on this subject, is the very inadequate appreciation entertained by the scientific and literary classes of the strength and importance of *the religious sentiments*. Debarred by the present state of theology from combining these emotions with their own studies and teaching, they overlook them altogether, and leave them to be wielded as active powers at discretion by the church and the religious sects, without troubling themselves about the uses which are made of them, except when they are directed against science and themselves. The consequence is, that theology reaps small benefit from science ; and that its stupendous powers are not unfrequently wielded as engines of personal or sectarian aggrandizement by men who retard, instead of advancing, the temporal welfare of mankind. By their blind dereliction of the God of nature and his teaching, they occasion a vast waste of mind and physical resources, in so far as regards the reclamation of this world. The men of science see this, yet stand by, timid and inactive. They *feel* a want of social importance and consideration for themselves and their pursuits ; yet so dark are their perceptions of their own splendid position, that instead of

going forth in the full confidence and panoply of natural truth, to proclaim the sway of the great God of nature in every department of human affairs, to teach his wisdom, and to instruct men in his ways, they felicitate themselves on the visit of a prince to one of their scientific meetings, as a certain means of commanding that public homage which they are conscious that they have never yet secured by their own influence over the public mind.

They must seek for consideration through other means. The moral and religious sentiments are the grand levers of civilized society. He who commands them is irresistible ; and until Science shall discover her own character and vocation,—that she is the messenger of God, speaking directly to these sentiments in strains calculated to thrill and rouse them to the most energetic action—she will never wield her proper influence over society for the promotion of their moral, religious, and physical welfare. Never, until she does so, will she take that place in social esteem and veneration which, as the fountain of Divine wisdom, she is entitled to possess. Let the scientific world consider the gigantic power of the religious sentiments in sustaining a vast priesthood, under every form of obloquy and depression, and amidst the most appalling poverty, in Ireland ; in rearing the fabrics of the dissenting churches in England and Scotland, and supporting a clergy to preach in them ; in maintaining numerous schools for education in their own tenets ; in rearing colleges and endowing professorships ; in distributing Bibles in every land and in every language ; and in sending missionaries to preach in every country of the globe—and they will obtain a glimpse of a truth which it concerns them to appreciate and apply. I honour the men who have made these glorious efforts, and who also, under the guidance of their common sense, have diffused a vast amount of secular knowledge through all ranks of society. Their aim has been pure and elevated, and their means holy, although, through the prejudices of their education, they have too much neglected to study nature in a right spirit. They have accomplished these mighty ends by wielding the religious sentiments as their lever ; yet these emotions, when systematically severed from science, cannot have achieved their mightiest conquests over human folly, ignorance, and suffering. What influence, therefore, might not the men of science wield, and what benefits might they not confer on mankind, if they only knew their own position as the expounders and interpreters of the language which creation is ever addressing to these emo-

tions! If they saw that every word which they utter in correct interpretation of nature's constitution and course of action carries the efficacy of Divine truth along with it for the advancement of human happiness, how poor would appear the condescending notice of a prince as a means of recommending them to public consideration! But have they not done injustice to the prince? Did he not come among them merely to pay his respectful homage to the truths of nature, and without an idea of gracing science by his presence, or of elevating its professors to a more dignified position in the public estimation by his courtesies? Rather let us believe that Prince Albert came to the British Association as the enlightened admirer of the Creator's wisdom revealed in scientific truth, and esteemed himself honoured by being admitted into the temple of Nature's God, and into the society of the interpreters of His will.

It may be objected that should men of science endeavour to represent nature as the workmanship of God, and to enlist the moral and religious sentiments (Benevolence and Conscientiousness, Wonder, Hope, and Veneration), by giving a living soul and a practical efficacy to their teaching, they might in one year be under the necessity of recalling as human error, views and principles which in the previous season they had taught as Divine truths, and that this would desecrate religion and degrade science. I reply, that penetrating, well-informed, and conscientious men, in interpreting the Book of Nature, would advance as Divine truths only such facts and principles as appeared to them to be fully ascertained; and that, in interpreting the Scriptures, no other or better security against erroneous and presumptuous teaching can be found. When we contrast the conflicting views of Scriptural doctrines which are every day emanating from the press and the pulpit, it is certain that many professors of Christianity are teaching as Divine truths, views which are merely the emanations of their own misguided judgments. But this is an evil inseparable from humanity. In the case of teaching science as Divine truth, there would be this advantage, that no sect or college could claim a vested right or prescriptive privilege of interpretation, and that religious teaching would advance *pari passu* with scientific research and discovery. Besides, errors would in time be detected and exposed by their consequences. Difficulties may long embarrass us in natural as well as in revealed religion; but as a general principle it may be stated, that in natural religion every doctrine that is sound leads directly or indirectly to beneficial temporal results, and every error to evil conse-

quences. There is a test therefore in this world, by which to try our interpretations of the Divine will in natural affairs ; and this is a great safeguard against continuing in error. In religious teaching concerning the life to come, no such test exists. When one sect denounces the doctrines of another as " soul-destroying errors," we cannot call in experience to settle their merits until it be too late. From the other world there is no return ; and instead, therefore, of God's sacred name and authority being more liable to be abused in teaching natural than revealed religion, the case is the reverse. In inculcating the latter, human presumption, ignorance, and folly, have a wider range of action than in teaching the former. The Roman Catholics and Protestants, on account of some trivial differences, respectively reject each other's version of the Bible as spurious ; but Nature speaks one language to all !

Another reason why these views may merit some consideration is, that the Theology which is based exclusively on Scripture and rejects the alliance of Nature, is actually falling before the progress of science. I have travelled in the United States of North America, in Germany, and Italy, and held converse with men of cultivated minds in these countries, as well as in the three divisions of the United Kingdom ; and I venture to say that the Theology which condemns Nature and rejects her alliance, however vigorous, powerful, and triumphant it may appear externally, is in the course of its decline and fall, as no longer suited to an enlightened age. In Germany, the country in which the Reformation originated and from which it spread, and which has since that epoch cultivated Theology in all its principles and aspects with the deepest research and most unwearied assiduity,—evangelical religion, as it is understood in this country, has already fallen, and is no longer the faith of the majority of the people. This decline has taken place, not through reckless profanity, as in the case of the French Revolution, but in consequence of long-continued investigation and discussion. This fact is known to, and its significance is appreciated by, large numbers of influential men in the higher, middle, and lower ranks of British society. The masters of the prevalent Theology probably know or suspect this to be the case, but do not correctly estimate the nature and magnitude of the forces which oppose them. Far from receiving cordial support and encouragement from statesmen, men of the world, the press, and men of science, they often meet with cold indifference, plausible apologies, or direct opposition ; but many of them mistake the cause of this unto-

ward state of things. Is it not, that science and reason have produced in the minds of these classes a silent conviction that the Theology in question is not a practical system in this world's affairs? It is something which often embarrasses and obstructs the movements of society even towards secular good. It is a machinery that is out of order, and cannot be made to work to the advantage of all. Nay, the clergy of various sects are themselves men; *their* faculties too have been adapted to nature's laws and constitution; and when light is abroad, they cannot remain in darkness. The press is daily giving indications that a change is proceeding even in their views; and it is probable that, in a few years hence, only a bold and good spirit will be wanting to shake the theological fabric in this country to the ground, as has already been done in Germany,—and then it will become the duty of enlightened men to reconcile the religion and morality of nature with that of Scripture, to the infinite advantage of both and of the people. I cordially subscribe to the proposition, that “the Gates of Hell,” or error, will never prevail against the Church; but the “Gates of Heaven,” or higher and purer, more practical, and more universal views of Divine truth, will prevail against all sects and churches which set themselves in opposition to the mighty march of man towards the fulfilment of his moral and social destinies.

An instructive example of the practical results of teaching religious doctrines irrespective of natural science and its applications, is afforded by Ireland; and I shall conclude these remarks by exhibiting a brief outline of the history of her educational efforts and their effects.

The Church of England long wielded the legislative powers of Ireland through the medium of the Irish Parliament, which was composed of Protestants alone, Roman Catholics being rigidly excluded. These legislators apparently embraced literally, and practically acted upon, the Church's views of the nature of man, and held that there could be no beneficial education except that which was based upon religious truth,—and, moreover, that their own church was the sole depository of that truth. They regarded the Roman Catholic faith as fundamentally erroneous, and therefore incapable of affording a sound basis for secular instruction. Under these convictions, the Government of Ireland, “for nearly the whole of the last century, laboured to promote Protestant education, and tolerated no other. Large grants of public money were voted for having children educated in the Protestant faith, while it was made a transportable offence in a Roman Ca-

tholic (and if the party returned, high treason) to act as a schoolmaster, or assistant to a schoolmaster, or even as a tutor in a private family.* The acts passed for this purpose continued in force from 1709 to 1782. They were then repealed, but Parliament continued to vote money for the support only of schools conducted on principles which were regarded by the great body of the Roman Catholics as exclusively Protestant, until the present system (the Irish National School system) was established in 1832.”†

These words are quoted from the Sixth Report of the Commissioners of National Education in Ireland, § 10, p. 135, and are deeply instructive. It was a fundamental error in the Protestant Irish Parliament to entertain the view of human nature which lies at the bottom of these enactments. Man does not possess a single power which is essentially and “of its own nature inclined to evil,” as the Church teaches us. On the contrary, there is a legitimate sphere of action for every function of the body and every faculty of the mind; and it is only the abuses of these, through ignorance and unfavourable influences, that constitute error and crime, and lead to misery. There was in man, therefore, from the first, and there is now in him, a capacity for education, by the development and right direction of his natural gifts; and both his own constitution and that of the external world are arranged with reference to that development, to render him prosperous and happy in proportion as he pursues it in a right direction, or miserable if he neglects it, or pursues it in a wrong way. Apparently the Protestant Government of Ireland, being disbelievers in these institutions of Divine Providence, and sincerely convinced that the Protestant religious faith afforded the only basis for a sound education, placed the before-recited enactments on the statute-book; and the consequences are now before us. The diffusion of the Roman Catholic faith in Ireland has not been checked; because sectarian education being in its own nature separable from secular, the priests of that religion continued to instruct their flocks in their own doctrinal tenets, and have reared nearly seven millions of human beings devoted to them in soul and body, and ready to sacrifice every thing that is dear to humanity, including life itself, in their defence. But these statutes effectually prevented the instruction of the Irish people in the great laws of Providence on which social order and temporal prosperity depend: They prohibited the

* See 8th Anne, c. 3, and 9th William III., c. 1.

† See Letter from Lord Stanley to the Duke of Leinster, on the original formation of the National Board; dated London, October 1831.

cultivation of their intellectual powers, and the development of their moral sentiments, on which hang the security of person and property, public tranquillity, and many of the enjoyments and amenities of private life. All this, I say, was deliberately and systematically prevented by Parliament ; and we now see a sincerely devotional people (for no candid observer can doubt that the Irish Roman Catholic peasantry are sincerely and deeply devotional) deplorably deficient in mental energy and industry, sunk in the lowest depths of helpless poverty, and—under the sufferings engendered by want—turbulent and murderous, false in covenants, untrue as witnesses, and wild and impulsive in revengeful action. Truly, when viewed in this light, they do seem to realize the orthodox description of human nature ; but this is only the dark side of their character. In more favourable circumstances they are kindly, cheerful, affectionate, and respectful to superiors ; shewing that they still possess the higher feelings of our nature : But how far may not their fearful aberrations and deficiencies have been aggravated by the imperfections of their training and education ? Their qualities as a race may present obstacles to their improvement ; but this affords no apology for having denied them, for so many generations, the means of secular education, except at the price of their religious faith. By prohibiting the use of the natural means for drawing forth the human powers in the sphere of virtue, the law has allowed them to luxuriate in that of vice ; and in the present condition of Ireland, we read the consequences attached by the Author of nature to the neglect and infringement of His laws. We see the *beau-ideal* of the results of dogmatic teaching, when secular instruction is dissevered from it. In England and Scotland, a higher natural endowment of mind in the people, and more favourable circumstances, have led to the infusion of a certain amount of secular instruction into the schools for religious teaching ; but among the Irish peasantry, for many generations, the priest alone was the instructor. Secular knowledge cultivates habits of correct observation of things which exist, of just appreciation of the effects of their qualities and modes of action, and of forethought and consideration regarding the adaptation of our conduct to their influences. *Purely* doctrinal teaching—that is, the cultivation of Wonder, Cautiousness, Hope, and Veneration, as the leading emotions—fills the mind with fearful or sublime contemplations and aspirations, having their issues chiefly in eternity ; and as these doctrines appeal to faith more than to reason, they do not cultivate habits of exact observation and reflection on this world's constitution and laws. They do not ne-

cessarily direct the attention of the mind to the proper arrangement and administration of secular affairs in conformity with the laws by which they are governed; but divert it away from them, and concentrate it beyond them in regions of eternal misery, or of glory and bliss. Ireland has been taught according to these principles, and her people are imbued with them; yet, because this world is an existing reality, instituted and governed by God according to laws adapted by Him to its present condition, and because man has been fashioned by Him in relation to it, and required by his constitution to act in intelligent accordance with its qualities and agencies, and because much of this department of Divine teaching has been neglected in the education of the people of Ireland,—they present the spectacle of poverty and ignorance, and of crime and misery, which now appals the world. Again, therefore, I venture to repeat, that *an important use of the religious sentiments is to lead men to study, venerate, and obey, God's secular institutions*; and after they have done their duty in this department, they may be legitimately employed in expatiating in the fields of eternity.

In 1832, as already mentioned, the British Government, moved, not by religious teachers of any sect, but by its own secular perceptions, instituted the existing Commission for aiding in a national education of Ireland on different principles. Lord Stanley, then Secretary for Ireland, in his letter to the Duke of Leinster, before referred to, says:—"The Commissioners, in 1812, recommended the appointment of a Board to superintend a system of education, from which should be banished even the suspicion of proselytism, and which, admitting children of all religious persuasions, should not interfere with the religious tenets of any. The Government of the day imagined that they had found a superintending body, acting under a system such as was recommended, and entrusted the distribution of the national Grants to the care of the Kildare Street Society. His Majesty's present Government are of opinion, that no private society, deriving a part, however small, of their annual income from private sources, and only made the channel of the munificence of the Legislature, without being subject to any direct responsibility, could adequately and satisfactorily accomplish the end proposed." He proceeds to mention, that this Society, with the purest motives, enforced "the reading of the Holy Scriptures, without note or comment, in all their schools;" and that their efforts to teach the Roman Catholic population proved abortive, because this Church denies, "even to adults, the right of unaided private interpretation of the sacred vo-

lume with respect to articles of religious belief." The Roman Catholic clergy "exerted themselves with energy and success" against the system. "The Commissioners of Education, in 1824-5, sensible of the defects of the system, recommended the appointment of two teachers in every school, one Protestant and the other Roman Catholic, to superintend separately the religious education of the children;" "but it was soon found that these schemes were impracticable," and, in 1828, a Committee of the House of Commons "recommended a system to be adopted, which should afford, if possible, a combined literary, and a separate religious education, and should be capable of being so far adapted to the views of the religious persuasions which prevail in Ireland, as to render it, in truth, a system of national education for the poorer classes of the community."

Accordingly, Commissioners were appointed, "composed of men of high personal character, including individuals of exalted station in the Church," and "of persons professing different religious opinions; and Parliament placed funds at their disposal, to execute this beneficent object. The Commissioners proceeded to their task in a pure, upright, and enlightened spirit; and their first regulation is, that "the ordinary school business, during which all the children, of whatever denomination they be, are required to attend, and which is expected to embrace a competent number of hours in each day, *is to consist exclusively of instruction in those branches of knowledge which belong to literary and moral education.* Such extracts from the Scriptures *as are prepared under the sanction of the Board* may be used, and are earnestly recommended by the Board to be used, during those hours allotted to this ordinary school business." The second regulation is, that "one day in each week (independently of Sunday) is to be set apart for religious instruction of the children; on which day, such pastors or other persons as are approved of by the parents or guardians of the children, shall have access to them for that purpose, whether these pastors have signed the original application (placing the school under the Commissioners) or not." There are still other liberal and judicious regulations for increasing the facilities for separate religious instruction which I need not quote.

Tried by the principles which I have now laid down, these proceedings were essentially sound. That is to say, there is a vast field of knowledge, physical, moral, religious, and intellectual, relating to this world and its administration, which is independent of all notions concerning the best means of securing happiness in a future state, and which Jew, Chris-

tian, and Pagan, must equally study, and on which they must equally practise, before they can secure to themselves prosperity on earth ; and as the functions of Government are limited to the present world, this field is the only one over which it can legitimately exercise any control. These principles were essentially recognised and acted on by the Legislature, when it appointed the Irish Board of Education.

They did not, indeed, profess to take up this position ; but they approached as near to it as circumstances would permit. The nation consisted of the sects A, B, C, and D, each of which was deeply impressed with the importance of religious instruction, and also of secular education, to the young ; but A held certain opinions on points of faith which B, C, and D rejected ; B held some opinions, the soundness of which A, C, and D disputed ; and so with C and D, each of which had its peculiar views,—belief in which it made an indispensable condition of admission to its schools. The consequence of these differences was, that educational effort was paralysed, and schools either did not exist, or were comparatively empty. The British Parliament solved the difficulty, by leaving all sects and individuals to manage their own schools, and teach their own children in secular and religious knowledge, in their own way ; but it proffered a helping hand, in the form of pecuniary aid, to such of them as were willing to open and conduct schools on the principles, secular and religious, *in which all were agreed*. This agreement was secured by placing the schools under Commissioners chosen from different sects, each of whom had a veto on teaching any doctrine of which he did not approve. These commissioners were able, liberal, and enlightened men, and speedily discovered a vast field of solid information, both secular and religious, respecting the truth and utility of which they were unanimous ; and they followed out the instructions of Parliament by teaching this to the people. Their books embrace the elements of literature, science, morals, and religion, the latter generally expressed in Scripture language ; but they contain few sectarian doctrines.*

What reception did this wise measure meet with from the Church of England and many other religious sects ? It was decried as infidel and godless, misrepresented, abused, and opposed, in the most unscrupulous and unmeasured terms. In the name of the religion of truth, the grossest misrepresentation was resorted to, in order to excite the public indig-

* Among their books is an excellent little work on the "Evidences" of Christianity, which has obtained the approbation of all the Commissioners.

nation against it. But the excellent sense, truly Christian spirit, and calm temper of the Commissioners, with the Archbishop of Dublin and the Roman Catholic Archbishop, Dr Murray, at their head, meekly sustained and triumphed over every hostile attack ; they persevered in the wise and virtuous measures prescribed by Parliament, and their success has been correspondingly great. The following Table, extracted from their last Reports, speaks for itself :—

Table shewing the Progressive Increase in the NATIONAL SCHOOLS, and the NUMBER OF CHILDREN in attendance upon them, from the date of the First Report of the Commissioners of National Education in Ireland, to the 31st of December 1845.

No.	Date of Report.	No. of Schools in Operation.	No. of Children on the Rolls.
1	Dec. 31, 1833.	789	107,042
2	March 31, 1835.	1106	145,521
3	„ 1836.	1181	153,707
4	„ 1837.	1300	166,928
5	„ 1838.	1384	169,548
6	Dec. 31, 1839.	1581	192,971
7	„ 1840.	1978	232,560
8	„ 1841.	2337	281,849
9	„ 1842.	2721	319,792
10	„ 1843.	2912	355,320
11	„ 1844.	3153	395,550
12	„ 1845.	3426	432,844

This is a triumphant return, and similar principles have obtained similar success in the United States of North America. Although that country is characterised by a great variety of zealous religious sects, yet it has established *State* schools, supported by public taxation, and superintended by State-appointed Boards of Education selected from all sects. In these the *elements of secular knowledge* and of *universal morality and religion* are taught, but all sectarian teaching is excluded, this being furnished by the parents and pastors of the children at separate hours ; and *these schools, too, have succeeded.* They also have been opposed by sectarian men,

and reviled as "infidel and godless;" but nevertheless they have been successful, and are conferring invaluable blessings on the rising generation.

Let us, then, briefly re-survey the history of education in the sister kingdom. The Irish Government first left the Roman Catholic population of that country for nearly a century to the influence of religious teaching alone, prohibiting, under the severest penalties, secular instruction from being given to them by the only class of persons from whom they would receive it. Secondly, it tried to connect secular instruction with reading of the Protestant version of the Scriptures, as an indispensable condition; and its efforts on these two principles egregiously failed. Thirdly, the British and American Legislatures have established schools, supported and controlled by the State, for communicating secular and religious instruction, exclusive of all peculiarities of sectarian faith; and, in spite of violent and powerful opposition, they have been successful. According to my reading of the order of creation, the failure of the sectarian, and the success of the universal systems, afford instructive practical lessons to the statesman; for beneficial results are at once the evidence and the reward of the soundness of the principles by which they are attained.

In the preceding pages, I have endeavoured to shew that Government *has a right* even to *compel* its subjects to receive such secular instruction as is necessary to qualify them for the discharge of their social duties; but I am satisfied that no compulsion would be necessary, and I do not advocate it, till all means of moral persuasion and voluntary influence have been tried, and failed. In the United States and in Ireland, there is no compulsion; and entertaining, as I do, the fullest confidence in the might and efficacy of moral means, when honestly and judiciously applied, I am no advocate for the use of physical force to accomplish a moral end. But as the *right and the duty* of the State at all to interfere in education have been contested by men whose opinions are entitled to great respect, I have considered it proper to grapple with the objection, and sift it to the bottom, to the best of my ability.

I have intentionally avoided details, and, consequently, I may thereby have left my views on many points imperfectly unfolded:—Still it is hoped that enough has been said to start the questions,—Whether there be, or be not, in the nature of man, and in that of the external world, and in the relations subsisting between them, a fund of instruction emanating from God, enforced by his secular authority, and ad-

dressed by Him to the human faculties, calculated to lead us to secular happiness and prosperity, irrespective of every opinion concerning the best means of securing happiness in a future state?—Whether all scriptural precepts, relating to this world and its affairs, do not harmonise with, sanction, and support the rules for human conduct, deducible from the constitution and order of Nature?—And, Whether it be not possible to blend the instruction emanating from these two sources, in a system of national education? If the answers be in the affirmative, then national education will be practicable by omitting merely the peculiarities of religious belief;—peculiarities which relate almost entirely to forms of church government, and the means of securing happiness in a future life: If not, national education is now, and will continue to be, impracticable, until all our fellow-subjects are agreed in their religious views, regarding both this world and the next. If the lay members of the community, who concur essentially in the affirmative, will take courage and honestly avow their opinions, they will find that their number is legion, and their power irresistible; and many of the clergy, of all sects, will in their hearts rejoice in the prospect of having the glorious fields of God's natural providence opened up to their people as sources of practical instruction, and of elevating and purifying emotion. All this seems to be attainable under a scheme of national education such as is already in operation in Ireland, and with this every wellwisher of the country may be satisfied.

In conclusion, I may notice a point of much importance, which has not yet been generally considered, viz., the relation in which science stands to the prevalent standards of religious belief. Although inquiry into this subject has long been shunned equally by men of science and by theologians, nevertheless it lies at the threshold of all sound legislation on secular education, and it cannot therefore be much longer avoided. The following questions present themselves to our consideration.

1st, Is there an order of nature or not? (In the *Constitution of Man* and *Moral Philosophy* I have endeavoured to shew that there is an order of nature, and to describe some of its leading features.)

2dly, If there is an order of nature—is it adapted with intelligent design to the human constitution, physical and mental, in such a manner as to connect temporal enjoyment with conduct in harmony with that order, and suffering with actions done in opposition to it?

If the true answers be in the negative, then Revelation

appears to be the only possible foundation for all sound education. There will be no other.

But if the answers be in the affirmative, then the *best* basis for *secular* education will be instruction in the order of nature, and in its adaptations to the human mind and body; for on the observance or neglect of these will essentially depend the temporal wellbeing or adversity of each individual in this world.

Farther, as the religious sentiments exist in man, and exercise a powerful influence on his actions, it becomes important to inquire into the relation in which religious instruction stands to the order of nature. If there be discord between them, no proper wholesome development of the *whole* mental and physical powers can be accomplished. If religious doctrines conflicting with the order of nature be taught, there must be deflection from truth and consistency, in the operation of the intellectual, of the moral, or of the religious faculties, to enable them to embrace inconsistencies; and this weakens the whole mind. It places it in swaddling-clothes, and frightens it from advancing boldly in the career of its own natural development. The doctrines of the different sects differ widely from each other, and hence they cannot all be in harmony with nature. But the order of nature is paramount and perpetual; and it is mere weakness to shrink from the inquiry here suggested. Consequences of the deepest importance are involved in it; and sooner or later it will force itself on the understanding of the country—and the sooner the better.

If there be an order of nature adapted by God to the constitution of the human mind and body, the Government should on no account patronise a scheme of secular education in which instruction in that order is either to be omitted, or made subservient or secondary to sectarian religious teaching. Temporal happiness, either of individuals or of society, cannot possibly advance except in harmony with the order of nature; and to omit it, as is at present done in many seminaries controlled by religious sects, is worse than to act the tragedy of Hamlet omitting the character of its hero. It is substituting human error (for the sects cannot all be teaching truth) in the place of Divine wisdom. The comparatively limited beneficial results which have hitherto followed our educational efforts, are, in my opinion, owing to this substitution. Religious teaching, in so far as it transcends or is not coincident with the order of nature, should be left to the parents and pastors of the children; the Government should on principle avoid it, as a source of contention, embarrass-

ment, and weakness, and rely on teaching the laws of nature and their relations, supported by the authority of Scripture, and enforced by the fervour of the religious sentiments, as the stable foundations of secular happiness. The tendency of such a course of public instruction will be to correct all theological doctrines relative to this world which are discovered to be at variance with the order of nature. It appears to me that the practical precepts of Christianity are to a remarkable extent in harmony with it; and that hence a system of public education, such as that adopted in Ireland, will admit of the order of nature being taught, whenever the different sects become so enlightened as to discover its importance—a consummation which would be the sooner reached if none of them had the power of substituting their own wisdom in place of that of the Creator.

NOTES
ON THE
NEW REFORMATION IN GERMANY,
AND ON
NATIONAL EDUCATION, AND THE COMMON
SCHOOLS OF MASSACHUSETTS.

BY
GEORGE COMBE.

A straw will shew how the wind blows.—OLD PROVERB.

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* The following Notes were written for, and originally published in, the *Scotsman* newspaper. They are reprinted in consequence of a demand for them in a more connected form.

NOTES ON GERMANY.

SECT. I.—THE NEW ROMAN CATHOLIC REFORMATION.

To enable our readers correctly to appreciate the nature and importance of the religious movement which is now agitating Germany, a few preliminary observations may be useful.

The Teutonic, or German race, although slow, is distinguished by great vigour, earnestness, and solidity of character. They are profound and intrepid thinkers, but not practical; they are full of deep and serious emotion, but it too often evaporates in enthusiastic ebullitions of poetry or song, without leading to any ulterior result. When excited, they are terrible in passion; but they are slow to anger, and are generally mild, considerate, and compassionate. They are the most upright, consistent, and honest people in Europe. A phrenologist would describe them as having large brains; a good deal of the lymphatic, combined with the sanguine, bilious, and nervous temperaments; large organs of the animal propensities, large organs of the moral sentiments—those of benevolence and conscientiousness predominating; also large organs of reflection, but with moderate or small organs of the observing and practical faculties.

During the last thirty years, education has not only been provided for the people, but enforced on them by the Governments of most of the states of Germany; and the instruction has been solid and valuable. The subjects taught in the higher schools, have embraced the elements of science; and the teaching has, in many instances, roused the understandings, and awakened the moral sentiments, of the pupils. The young generation, therefore, in the towns and densely peopled districts, is distinguished for intelligence and mental activity; and printing and publication flourish to an extent surpassed only in Great Britain and the United States of North America. In the rural districts, however, in which the peasantry are, in general, the owners of their farms, which they cultivate with their own hands, the process of

thinking is much circumscribed by toil ; and the people are less speculative, but more practical.

When Europe was settled by the treaty of Vienna, after the final expulsion of Napoleon, the politicians thought nothing about religion, but combined states from purely political motives. In several of them, by a strange coincidence, they nearly balanced the Roman Catholic and Protestant populations. Prussia, for example, which was formerly the bulwark of German Protestantism, acquired so many Roman Catholic provinces, that it is no longer a Protestant monarchy ; Bavaria, a strong pillar of Catholicism, received so many Protestant subjects, that it is no longer a Catholic kingdom. Even Geneva, the focus and fountain of Calvinism, acquired so many Catholic subjects from Sardinia, that the State Council is no longer exclusively Protestant. The consequence has been, that each great party holds the other in check, and sectarian legislation in matters of religion has become impracticable, and is no longer advocated. In Geneva, the advantages of abolishing all state support of religion, and adopting the voluntary system, have been seriously discussed. The personal relations of some of the sovereigns tend also to mitigate religious rancour. The King of Saxony, for example, although ruling over a Protestant country, is a Roman Catholic ; and the King of Bavaria, a Catholic, is married to a Protestant Princess, who continues attached to her own creed, and serves as the pledge of protection and safety to her Protestant subjects. The heir-apparent of Bavaria, also, for the same reason, has recently married a Protestant. Protestant and Catholic institutions receive equal support from the public purse. In Baden, one of the universities, that of Heidelberg, is Protestant, and the other, that of Friburg, is Catholic. In all of these countries Protestants and Catholics are equally eligible to every civil and military employment.

These circumstances have greatly mitigated the dissensions between Protestants and Catholics ; but recently a new religious movement has taken place in society. The rulers of Germany have long and strenuously restrained the political press of that country ; but as their subjects experienced a necessity for speculation and thinking, they left open to them three safety-valves for the escape of the national mental power. These were, poetry and romance ; metaphysics ; and religion. And the German mind did not fail to avail itself of the freedom vouchsafed to it in these departments of thought. Before the battle of Jena (14th October 1806), the imme-

diate precursor of the German social revolution, Rationalism, or that system of Christian theology which is coincident with natural religion, was the prevalent creed of the German clergy. After that event, there was a reaction towards evangelical opinions. But the war of controversy proceeded; and, in the universities and higher seminaries of education, a new generation sprang up, which adopted the opinions of the philosopher Hegel*—that Christianity is not necessary to the welfare of society; and they not only discarded Rationalism, but threw even Strauss and his Life of Jesus overboard, as too deeply tinctured with theology, and took their stand on philosophy alone, as the foundation of morals and religion. The state of opinion on this subject is well recorded in the *Deutsche Jahr-Buecher* for 1842, a scientific and literary periodical, edited by Arnold Ruge, and in his "*Anekdoten zur neuesten deutschen Philosophie und Publicistik*," published in 1843. In these works Ludwig Feuerbach, a man of unimpeachable morality and great talent, wrote against Christianity, and proposed to substitute Hegel's philosophy in its place. The censor at Leipzig refused to allow this essay to be printed. Dr Ruge, the editor, appealed to the Minister of the Interior in Dresden, who confirmed the sentence of exclusion. He states his reason to be, that the essay was not confined to an attack on the opinions or tenets of any particular sect, but was directed against Christianity itself, as irreconcilable with science, philosophy, and civil government. The books now mentioned were both prohibited; but they continue to be sold and extensively read in many parts of Germany.

We have endeavoured in vain to comprehend Hegel's philosophy. It is an occult science in which the ideas are so abstruse, the distinctions so fine, and the relations so inappreciable, that peculiar talents and a special study appear to be necessary to understand it. It is impossible to render parts of it into English, because our language has no terms expressive of many of the combinations of ideas which abound in it.† To propose to substitute such a system for Christianity was pure philosophical fanaticism. Nevertheless, the delusion spread, and seriously alarmed the Governments. The rulers of Germany are not yet so enlightened

* Born 1770 at Stuttgart, died 1831 as Professor of Philosophy in the University of Berlin.

† A sketch of this system is to be found in Menzel's German Literature, translated by Thomas Gordon, minister of Newbattle, vol. i.

as to comprehend that Christianity itself, law, justice, and social order, rest secure on the basis of the innate faculties of man, and that religion has no more need of state support to maintain its existence and efficiency, than has astronomy or chemistry. They regard Christianity as the only sure basis of civil authority; and state-paid priests and state-made creeds as the only stable foundations of Christianity. They therefore seriously proceeded to counteract the diffusion of these philosophical errors. The King of Prussia became the patron of evangelical opinions; he enforced a more rigid observance of the Sunday, and encouraged Sunday schools, and evangelical religious societies. The press, meanwhile, so far as the censors would allow, made war against these innovations, and the public mind was kept alive by religious discussions. To refute the Hegelites, that monarch invited Professor Schelling of Munich to come to Berlin; and in 1842, the Professor delivered a full course of lectures on Christian Philosophy. He was listened to by a large and intelligent audience, backed by the whole moral and political influence of the Government. He assumed the Bible to be revelation, gave to its dicta the same authority which is allowed to natural facts in physical science, and on its basis reared a Christian Philosophy. He made an impression on some of his hearers; but the general tendency of the best educated young men in Germany continued to lean towards the Hegelian views.

While the Protestant powers were thus employed, the Roman Catholic authorities were not idle. They endeavoured to heighten the influence of the priests over the minds of the young;—the priests themselves became more active, tried to obtain the command of education, and, unfortunately for themselves, instead of advancing with the public mind, they attempted to turn back the hand of time, and to reintroduce the superstitions of departed ages. Among other appeals to the blind devotion of that portion of the German people (chiefly the agricultural) who continued strongly attached to the Roman Catholic faith, the Bishop of Trèves, on the Moselle, exhibited, in the autumn of 1844, in the cathedral of that city, a vestment woven without a seam, which tradition and a bull of Pope Leo X. certified to be the coat worn by the Saviour at his crucifixion, and for which the soldiers cast lots. Evidence was published out of pretended records, proving that Helena, the mother of Constantine the Great, had made a pilgrimage to Jerusalem, and obtained this and other precious relics, and had bestowed the coat on the

cathedral of Trêves. It was exhibited daily during six weeks—visited by (according to report) about a million of the devout, who, after confession and repentance of their sins, and making gifts to the cathedral, each according to his means, received absolution and indulgences; and, moreover, many of the afflicted were miraculously healed of their diseases by looking on the coat in the spirit of penitence and faith.*

The newspapers of Germany, Protestant as well as Catholic, reported each day's ceremonies, and the latter celebrated in ardent terms the wonders performed by the holy coat. This was too much for the educated portion of the German people, and at length Johannes Ronge (pronounced Wrong-gé, the g hard and the e accented), a priest of Silesia, raised the standard of revolt, denounced the tunic as a scandalous imposture, renounced all connection with the Church of Rome, and called on his countrymen to follow him and assert their spiritual independence equally of the Pope, the Bishops, and the State. This call has been enthusiastically answered in Prussia, Saxony, the Free Cities, Baden, Württemberg, and, indeed, in every state in which the Government has not forcibly interfered to arrest the movement. Other priests have followed Ronge, and in numerous localities in the countries now named, large and influential congregations have been formed, and the excitement is still in full blaze. Some of the Governments at first partially encouraged it, then became alarmed, and tried to restrain it. They threatened, vacillated, and in some instances retracted; and altogether they have manifested much uneasiness, without being able hitherto to discover what course they should systematically follow. The Reformers are already too numerous and influential to render it safe to attempt to put them down by open force; while the spirit of freedom, self-reliance, and self-action, with which they are animated, threatens to extend into politics, and to produce still farther important social results.

* A detailed account of these proceedings, and of the subsequent events up to May 1845, will be found in a pamphlet, entitled "John Ronge, the Holy Coat of Trêves, and the new German Catholic Church;" Nelson, Edinburgh and London.

SECT. II.—THE NEW REFORMATION—RONGE'S OPINIONS.

The attendance of the people on public worship affords, perhaps, the safest criterion by which a stranger can judge of the state of religious feeling in a foreign country which he visits; and, tried by this test, the external indications of religious sentiment in Germany corresponded closely with the representations which we presented in our last notice. In the rural districts, whether Roman Catholic or Protestant, the churches were filled—in some places crowded—at a very early hour in the morning (in summer from 6 to 9 o'clock), with the peasant population of both sexes. They dined at twelve o'clock, and spent the afternoon in shooting at targets, dancing, smoking, drinking beer, or other amusements. In the towns, nearly nine-tenths of the congregations of Roman Catholic Churches were women, and the few males present were, generally speaking, old men and boys. In the Protestant churches, the males might amount to two-tenths of the congregations, and among them might be seen a few more individuals in middle life; but, generally speaking, the active, intelligent, middle-aged men, were not frequenters of the churches of either sect, in any adequate proportion to their numbers. These facts indicated that the educated public mind of Germany had forsaken the external forms of religion, as taught in the established churches of the country, while it had not embodied itself in any other forms or institutions.

In this state of things Johannes Ronge published his "Call" to a new reformation, and, so far as he has hitherto proceeded, he has thrown himself on the German mind in its actual condition. He has not announced new articles of faith,* or new forms of church government, but simply preached freedom for religious opinions from all lay and clerical domination. He casts the pope, the bishops, and the state, equally overboard, and proposes to place religious power in the hands of the people. But to convey the spirit of his address, we shall allow him to speak for himself. In his "Call"† he

* In the pamphlet, "John Ronge and the Holy Coat of Treves" (Nelson, Edinburgh and London), a confession of faith, adopted by the congregation of Schneidemühl, is printed; but this proceeded apparently from the Priest Czerski, and, as is correctly stated in the pamphlet itself, "there has been no time to draw up a full and authorised confession of faith for the general body of reformed Catholics."

† Zuruf von Johannes Ronge, Dessau, 1845, Drück and Verlag v. H. Reubürger.

says—"Only a few months ago, a dense cloud of darkness overshadowed our minds, which became ever deeper and deeper. It appeared as if the mental attainments of the preceding century were destined to be buried in the tomb of the nineteenth; as if the civilization of Europe should sink under the load of religious hypocrisy and barbarism, the offspring of Jesuitry and Pietism;* as if the spirit of Christianity itself should be extinguished by the heathenism and priestcraft of Rome. Many who were capable of casting a look into the future became dispirited, and gave themselves up to lamentation; yet those who viewed history as a record, not of accidental occurrences, but of the grand acts of Providence in human affairs; who had penetrated deeply into the drift of the hierarchies of the land, and appreciated correctly the power of the German public mind, never, even in this their midnight gloom, lost courage or yielded to despair. They perceived that the fabric of Romish tyranny, founded on falsehood and hypocrisy, would, sooner or later, be shattered to pieces by the Christian spirit of the age. And the event has justified their anticipations. In point of fact, as the pretensions of Rome, and the insolence of Jesuitism exceeded all bounds, and as a portion of the pietistical-Protestant clergy vied with Jesuitism itself in hierarchical encroachments, recommending and striving to introduce auricular confession, family *espionage*, and other abuses, the deeply oppressed Christian soul of man awakened with wrathful energy; the spirit of the age burst its degrading fetters, and tore to shreds the veil of hypocritical sanctity which covered the bald heads of the modern sinful pharisees." * * * * "Wider and wider, and with stormy power, the excitement spread abroad, 'Save us!' cried thousands of voices; 'we thank thee, God, that we have lived to see this day!' exclaimed grey-headed men, who, animated by the purest patriotism, had, in the years 1813 and 1814, risked their lives in the trenches and in the field for freedom.

"Rome and her slaves lost no time in bringing this holy enthusiasm under suspicion as dangerous to the state, as socialistic, and so forth; they betook themselves to their old sin against the Holy Ghost, to bringing *mind* under suspicion; *they suspected and continued to suspect the Spirit of God in man, and to brand that Spirit as criminal*—they calumniated the patriotism and love of freedom of the German nation, as

* "Pietismus" is a word invented in Germany to express that un-social and intolerant spirit which, in this country, would be regarded as the abuse or extravagance of evangelical religion, mixed with a good deal of hypocrisy.

high treason. For a brief space the movement was misunderstood, partly because at first the enthusiasm appeared too general and strong, partly because from differences in the reports of the events at Schneidemühl* and Breslau, the victory of the nineteenth century seemed still undecided. But when the union of the congregations† took place; when it was clearly perceived that the nineteenth century would no longer quarrel (hadern) about this or that article of belief; that the new age cast from it all hatred founded on differences of faith, and that now, at least, the kingdom of Christian love was about to begin; when, above all, the shout of welcome arose from the greater portion of the Protestant population—then awoke not only the priestly spirit of Rome, but also that of corrupt Pietismus. Few ventured to attack our cause itself, for it is so clear and simple, that every child may understand it. They sought for terms with which to calumniate it, and bring it under suspicion,—*modern heathenism*, want of positive articles of faith, want of scientific foundation—these are the taunts with which they seek to put down the new Reformation.” He then retorts on the Romish clergy, and accuses them of heathenism, of substituting saints and relics, popes, bishops, jesuits, monks and nuns, as objects of reverence and imitation in place of God Almighty and Jesus Christ. “Hypocrisy, lies, and idolatry,” he continues, “are the precepts and the fruits of Popery, and the devil is the bugbear (Popanz) with which you drive unhappy christendom into your sheepfolds. With you, fear takes the place of love in the Gospel! Only believe firmly in the devil! This personage is of great importance to you; and what do you call science? Is it your incomprehensible dogmas, with which, like dolls, you have been taught to play from your earliest infancy? The highest science is truly this—to understand our time; and the most powerful logic is that which, from historical premises, draws practical conclusions to advance the well-being and dignity of humanity, the salvation and happiness of our father-land!”

“But is it only the priests of Rome who utter these accusations? No. There are clergymen called Protestant,

* J. Czerski, a Roman Catholic priest at Schneidemühl, openly renounced his connection with Rome, and carried his people with him.

† In German the word is Gemeinde, which signifies commonality, community, congregation, parish, or church, according to circumstances. In the present case we translate it “congregation,” because the union of worshippers closely resemble those of the Free Church of Scotland. They are generally collected from a circumscribed locality, but they do not always or rigidly correspond to a parish.

who scruple not to take open part with Rome, because (as some of them have candidly avowed) their worldly interests are endangered. A traitorous priesthood everywhere sells Christ for silver and gold; but this Protestant hierarchy and priesthood is far more despicable than that of Rome, because its guilt is double. Oh! would the world believe it, if conviction were not forced on it by facts, that so-called Protestant preachers and religious instructors more willingly give the hand of fellowship to jesuitism and popery than come out of their corrupt limbo of affected sanctity and of hierarchical conceit—that German men and fathers prefer surrendering their names and their children to hierarchy (Rome) and Cossack barbarism (Russia), rather than exchange their tithes and official fees for an honourable maintenance? But the true spirit of Protestantism neither can nor will forgive such conduct. Already has it pronounced a strict and righteous judgment upon many of these pietistical abettors of jesuitism and priestcraft, and the others will not escape. Woe to you who mock and scorn the spirit of true Christianity! Your tongues shall become dumb, and your hands shall become paralyzed! See how the flame flashes brighter and brighter in the really Protestant church! Woe to you who dare to arrest the wheel of the world's history: it will crush us to atoms."

Another address to the "Catholic schoolmasters" of Germany, dated "Laurahütte, October 1843," was published by Ronge, even before the Holy Coat of Treves was exhibited; and we have before us also a list of several other "calls" and "addresses" from himself and the priests who have joined him, all breathing a spirit similar to that embodied in the above extract. They are reprinted everywhere, and sold for a few pence, and their circulation is very extensive.

If we were to judge by British standards, we should conclude that the new reformation is merely an extravagant outburst of German enthusiasm, which will speedily exhaust itself and die; but viewed in relation to the mind and circumstances of Germany, it appears in a different light. The national mind of Germany does not miss the positive and practical in these addresses, or it hopes to supply them hereafter. Thirty years of the boldest speculation in religion have (whether right or wrong) convinced the people that neither Popery nor Protestantism, as now established in that country, meets the wants of the age, and with headlong zeal they proceed to shake themselves free from both. What

they shall substitute in their place, they reserve for the subject of future deliberation.

On the 15th of September 1845, a meeting was held at Stuttgardt, at which Ronge was present. Twenty-four delegates from distant congregations, and a large assemblage, not only of resident members, but of distinguished and influential men from different German States, attended. The south-west of Germany was constituted a province of the new church. The votes were taken by congregations, and the right of independent women to vote was carried by 43 to 11. All the congregations have the right of managing their own affairs according to their local habits, manners, and interests, and the organization of the congregations was reserved for another meeting. Nearly two hundred congregations have already been organized, and their constitutions will probably be followed in Wirtemberg. A *Concilium* is to be held at Frankfort-on-the-Maine, and a Synod annually, to manage the business of the body.

Austria and Bavaria prohibit meetings and gag the press, by the strong arm of power, in order to resist the movement; but in all other parts of Germany the flame spreads like wild-fire. Ronge enters cities in triumphant processions, his carriage is decorated with flowers, dinners are given to him, and serenades are performed beneath his windows, while the public authorities are constantly warning and watching, but have never yet had the courage to arrest his career.

We were anxious to discover what class of the population took part in these demonstrations, and, in September last, attended an ordinary Sunday meeting of the Reformed Catholic congregation of Frankfort-on-the-Maine. It was held in the great hall of the Hotel de Hollande, and presented an extraordinary spectacle to one accustomed to observe ordinary German churches. We were informed by the members that it consisted of above six hundred souls, of whom we saw more than five hundred actually present, and of these *about four-fifths were men between the ages of twenty-five and fifty*, the remainder were women and old men, and a few young lads. Their dress and appearance indicated that they did not belong to the aristocratic nor to the poorer classes, but to the middle class of Frankfort citizens in all its grades; and we have been assured, that the composition of the congregations in other localities is more or less similar. The whole of what we call the mummary of the Roman Catholic worship was dropped, and prayer, praise, and preaching, formed the exercises of the day. If this portion of the people continue to adhere to the cause, it is clear that the new reformation wants

nothing but organization and positive principles in accordance with the public mind, to render it at once stable and important.

While these movements are proceeding in the Roman Catholic Church, the Protestant Church is divided into three great sections and deeply agitated.

SECT. III.—STATE OF PROTESTANTISM.

While the events mentioned in our last notice were proceeding in the Roman Catholic Church, a great movement simultaneously occurred among the adherents of the Protestant faith. Protestantism in Germany is at present divided into three great sections,—the “Pietists,” the “Friends of Light,” and a middle section, which has taken up ground between these two, but has not yet received a distinctive appellation.

The “Pietists” are the old evangelical or orthodox party revived. At their head are the King of Prussia, some of the leading men of his Government, and a great many civil and ecclesiastical functionaries, and members of the nobility. The two principal theological leaders of this section are Professor Hengstenberg of Berlin, editor of the *Evangelische Kirchen Zeitung*, the chief organ of the party, and Professor Tholuck of Halle, well known as an oriental scholar. In Prussia this party is all powerful. It adheres strictly to the letter of the “Confessions” adopted by the early Reformers, and believes also in the inspiration of the letter of the Scriptures. It presents itself as the antagonist of Rationalism, and of all other modifications of Christianity which limit or deny its supernatural elements.

This party, unlike the Methodists in England, or the Free Church in Scotland, has not emanated from the deep convictions of the people, but been called into existence and fostered by the hand of power, partly for political objects. In consequence, some of its adherents have never received credit from the public of Germany for sincerity, and many of their acts have given too much countenance to the suspicions entertained of them. For instance, on Advent Sunday in 1841, thirty-four Protestant evangelical clergymen of Berlin preached sermons on a becoming consecration of the Sunday; but they were prohibited by the Government from printing and publishing an appeal to their flocks, calling on them to give effect to their views. The superior authorities foresaw that this appeal

would be answered, that a controversy would be generated, and they suppressed the document. Afterwards, however, a pamphlet was distributed at the doors of the churches of Berlin, consisting of texts of Scripture bearing on the observance of the Sabbath, and of extracts from the writings of the Christian Fathers on the same subject. This looked like inconsistency or timidity, or both. Again, on the day after Christmas, which, previously to that year, had been celebrated in Berlin with balls, music, and dancing, none of those festivities were allowed ; and all dancing and music on Saturday evenings were ordered to cease at twelve o'clock. A society for the reform of female servants, by delivering lectures to them on Sunday evenings, was set on foot, and another for male servants was projected. The people resisted these restrictions on their amusements, and many of them were fined by the police. Nevertheless, during these proceedings, the theatre, an establishment completely under the command of the authorities, was not only in full activity on the Sunday evenings, but the box-office was kept open for the transaction of business during the hours of divine service.

The severe censorship exercised over the press prevented the expression of public opinion on these occurrences in Prussia ; but innumerable letters were written from Berlin attacking the Government and evangelical clergy on account of them, and these were published in the newspapers of the neighbouring states, whence they speedily found their way back into Prussia. The Government was so annoyed by this warfare, that, in 1842, they relaxed the censorship, allowed more freedom of discussion ; but compelled every newspaper that published statements injurious to the Government or the clergy, to print in its columns a refutation of the attack furnished by the public authorities. It was stated that a Government office was actually instituted in Berlin to prepare these refutations. The first use made of the relaxation was to assail "Pietismus," and to expose the disorders of the finances of the city of Berlin. Next, the budget of the state was attacked. The Government attempted for a time to support itself and the Clergy by "refutations ;" but it was encompassed by innumerable controversialists, who, it alleged, resorted to systematic falsehood in order to bring it and evangelical religion into contempt. It, therefore, reimposed the restrictions on the press, and rendered them more severe than ever.

But the spirit of opposition was not to be laid. Saxony was at hand, in which the censorship was less rigid ; and, in 1842, a clever pamphlet appeared in Leipzig, attacking the

societies for the observance of the Sabbath, and "Pietistry." It was prohibited in Prussia, on the ground that it assailed the clerical order by vituperation and abuse, and accused the clergy of Berlin of endeavouring to introduce a service conform to the letter of Scripture against its true spirit, and also against their own better convictions; but it was, nevertheless, smuggled into Prussia, and gave rise to fresh discussions in pamphlets and newspapers.

About the same time a new trouble introduced itself into the Protestant Church. The evangelical clergy became dissatisfied with the law of divorce, declaimed against the toleration introduced by Frederick the Great, as the origin of the modern laxity of morals and religion, tried to restore the order of the church on divorce to the state in which it stood in 1573, and objected to re-marrying persons who had been divorced under the existing law, where it differed from the old. The Government, after numerous consultations and long delay, has only recently announced, that when a clergyman cannot reconcile it with his conscience to pronounce a blessing on such marriages, he shall not be compelled to do so. This, of course, casts a stain upon such unions, and has tended to excite still more the public mind.

Although Prussia was the head-quarters of these discussions, they extended into, and greatly interested, all the other states of Germany in which the press was permitted to report them. The opposition to the Prussian evangelical religion did not emanate from low, reckless, and immoral characters, the natural enemies of all serious opinions, but from scholars and men of talent, generally of irreproachable lives, and who were animated with convictions apparently as sincere as those of the clergy whom they attacked. No inconsiderable portion, also, of the Protestant clergy themselves, as we shall subsequently see, favoured and abetted the opposition.

Things continued in this condition until the appearance of John Ronge in 1844. As mentioned in our last notice, he did not throw himself into the ranks of the evangelical party, but joined the liberals, denounced "Pietismus" as opposed to the spirit of the age, and avoided the profession of any specific articles of faith. His appeal excited intense interest among the Protestants of Germany, and the following events have recently taken place.

In Saxony the chief clerical authority over the Protestant church is wielded by a commission, which originated in the following circumstances. In the year 1697, when the Elector Frederick Augustus the First renounced Protestantism, in

order to qualify himself for the crown of Poland, he pledged himself never to abridge the liberties of the Protestant Church. In the year 1706, and again in 1717, when the Crown Prince also forsook Protestantism, this assurance was renewed; and afterwards, to give effect to the pledge, the Princes of Saxony made over to their privy counsellors all their rights as sovereigns over the Protestant church, discharging them, at the same time, in all matters regarding that church, from their oath of allegiance to the crown. This is the origin of the commission "*In Evangelicis*." It was confirmed when Saxony received a constitution and became a representative monarchy.

On the 17th July 1845, the Minister at the head of this commission issued an ordinance, intimating, that as he is bound by his oath of office to uphold the Augsburg Confession of Faith, he will oppose, by every means in his power, all attempts at forming societies and holding meetings directed to the object "of calling in question or attacking" that Confession, and he prohibited them accordingly. On the 19th of July the Minister of the Interior fortified this document by his authority, and required the officers of Government to carry it into execution. On the 31st July, however, Messrs Klette and Bloede, two of the commissioners of police of Dresden, whose duty it was to execute the ordinance, published a protest against it, as being "illegal and unconstitutional," and announced their intention of disregarding it. They were speedily dismissed from office by the Minister of the Interior; but these occurrences strongly excited the public mind; and while they were still recent, Prince John, the heir-apparent to the throne of Saxony, a man of talent, but strongly attached to the Catholic faith, visited Leipzig in order to review the militia. After he had retired to dinner, the people assembled before his hotel, expressed by cries, their dissatisfaction with the late prohibitory ordinances of the government, and some of the rabble also threw stones and broke the windows of the house. The military were called out, and fired, and several lives were lost. This led to fresh meetings of the people, in which political and religious subjects were freely discussed, and resolutions were proposed, adopted, and published, in favour of the popular movement towards a new reformation. These resolutions were presented to the Government; but instead of giving effect to them, the Minister of the Interior, Von Falkenstein, on the 26th of August, again issued a proclamation, denouncing these assemblies as illegal, and thenceforth strictly prohibiting them. This ordinance was again assailed by the press as an

infringement of the constitution, and as an inroad on freedom of religious opinion. The right of meeting was claimed as one of the fundamental privileges of the Saxon people, which no law had ever abridged or abrogated.

In Prussia similar movements took place; and a new religious party, already alluded to, styling itself "The Friends of Light," "Licht Freunde," appeared. It is composed of Rationalists, Hegelians, and men of all shades of latitudinarian opinions in religion. The leading men among them are Wiflicen, a Protestant clergyman in Halle; Uhlich, also a Protestant clergyman; and Dr Dinter at Koenigsberg, a member of the Government Board for Education and Ecclesiastical Affairs. He is the author of the "Bible for Schoolmasters," illustrated according to Rationalist principles, which has been long in use, and had great influence in rearing schoolmasters in the principles maintained by the author. The Government has issued strict orders to the Minister for Ecclesiastical Affairs to prohibit all meetings of this sect, in any form approaching to that of a popular assembly; that is to say, if they are composed of individuals belonging to different classes of society.

A third party, the most influential of them all, has, within the last six weeks, placed itself between the "Pietists" and the "Friends of Light." It professes to adhere to the Scriptures as the foundation of its faith, but declares that the *spirit* and not the *letter* of the Gospel is its rule; and especially, that the letter of the Articles of Faith of the early Protestants (the Augsburg Confession, for example), is by no means binding on the men of the present day. This party has published a declaration of its sentiments, subscribed by ninety distinguished men, at the head of whom stands Bishop Eylert, the primate of Prussia, and Bishop Dräseke of Magdeburg, well known over the whole of Germany for his piety and clerical virtues. It farther includes such men as Dr Jonas of Berlin, one of the first disciples of Schleiermacher, and the Rev. Frederick Sydow, chaplain in ordinary to the King of Prussia, who is well known in Britain, especially in Scotland, as the strenuous advocate of the independence of the Church, and of a constitution similar to that which exists in Scotland. This party has been strongly supported by the magistrates and civic council of Berlin, who have addressed a memorial to the King, charging the "Pietists" with much of the blame of the recent troubles, and calling on his Majesty to convoke an ecclesiastical council from all parts of the kingdom, in order to devise a constitution for the Church

suited to the spirit of the age, and especially to admit the laity comprising the congregations into a participation in the management of church affairs.

These two documents throw so strong and authentic a light on the present views of the ablest and best men of Prussia—clergy, teachers, public functionaries, and citizens—in regard to religion and the church, that we shall present a translation of them.

SECT. IV.—DEMANDS OF THE PROTESTANTS.

THE declaration published by the *middle* Protestant party of Prussia mentioned in our last notice, dated “Berlin, 15th August 1845,” is to the following effect:—

“In the evangelical church a party has raised itself into importance, which clings obstinately to the forms of Christianity such as they have been handed down to us from the beginning of the Reformation. These forms are their Pope. In their estimation, those individuals are true believers who unconditionally embrace them; and all are infidels, and also politically liable to suspicion, who refuse to accept them. The men of this party are zealous, but not according to wisdom: they aim at dominion in the Church. They were the first who, in their common organ, “The Evangelical Church Gazette,” combined, in contravention of the order of the Church, to bring the evangelical faith and freedom of conscience into danger; who made use of excommunication, and who attempted to make an impression by their numbers. Their opponents have felt themselves necessitated, likewise, to form themselves into associations in order to meet numbers with numbers, whereby, unfortunately, extreme opinions in matters of belief have been evoked; and scope and opportunity have been furnished to the most inconsistent elements to come into scandalous collision. In consequence, we observe in our churches, on both sides, the spirit of brotherly conciliation give place more and more to a threatening and tumultuous deportment. There is evident risk that the evangelical church will be split into many sections; and hence arises a call of duty on all its active members to step forward and meet the danger. On this account, and on this alone, the subscribers consider it to be their indispensable obligation to publish their sentiments. They embrace, as their own conviction, the fundamental principle of the Reformation—that Jesus Christ, the same yesterday, to-day, and for ever,

is the only ground of our salvation ; but the forms in which this conviction shall be freely developed in individual minds belongs to the guidance of Christ alone.* From this conviction they declare it as their opinion that a satisfactory conclusion to the present strife can be attained only when no arbitrary exclusion shall be permitted, when the right of free development shall be conceded to all, and when a constitution of the church shall be brought into operation, which, by the grace of God, and the lively participation of the congregations, may give her a new form and new strength.

Subscribed—

HEINSIUS, Dr, Professor,
HOSSEBACH, Dr, Consistorial Coun-
cillor,
JONAS, Dr, Minister of the Evan-
gelical Church,
KOEPEKE, Dr, Professor,
LACHMAN, Dr, Professor,
MEINKE, Rector of the Joachims-
thal College,

PISCHON, Dr, Consistorial Coun-
cillor,
DRÄSEKE, Dr, Evangelical Bishop,
EYLEERT, Primate of the Prussian
Evangelical Church,
KUHLMAYER, Head-President of
the Board of Control,
SYDOW, Chaplain to the King,
WOLFART, Upper Finance-Coun-
cillor and President,"

and by 78 other individuals, mostly employed in education, in medicine, or in the service of the State.

The memorial presented by the Magistrates and Town Council of Berlin to the King of Prussia appeared on the 3d September 1845, and after alluding to recent events, it proceeds as follows :—

"These movements are not of an ephemeral nature, but have a deep foundation in the progress and the development of the people. They may lead to blessed results, if the State undertakes their guidance, and permits the good which they contain to expand itself into practical realities. Two parties stand opposed to each other—the old-historical-literal believers, with their exclusive churchism (exclusiver Kirklichkeit), and the movement party, who will not allow human dicta to be erected into standards of faith, but acknowledge only the spirit of truth as it flows in the original fountains. The majority of the people incline to the latter party. Although they may not yet in every quarter have made conscious movements in this direction, and especially, although much obscurity still prevails in their minds in regard to the arrangements necessary for the Church, nevertheless the Christian

* The text is, "Sie gehen von der der Reformation zum Grunde liegenden Ueberzeugung aus, dass JESUS CHRISTUS, GESTERN UND HEUTE UND DERSELBE AUCH IN EWIGKEIT, der alleinige Grund unserer Seligkeit ist, die Lehrformel aber der freien Entwicklung von Christus aus zu Christus hin angehört.

principle of freedom unquestionably lies at the foundation of their efforts. The Reformation has given practical effect to a living opposition to the stability of Rome. The revelation (literally tradition) of the Old and New Testament constitutes the enduring foundation of our faith, but every Christian is bound in duty to form his own opinions of revelation (tradition) after free investigation.* The Spirit of God cannot be confined in forms. It is not the vessel which contains the faith that constitutes its essential elements, but the spirit of truth, holiness, and love which Jesus proclaimed! This is the foundation-stone of the Church. This conviction has become a living principle in the mind of the age. In opposition to it, however, a party has taken the field which identifies the spirit with the letter of faith—the form with truth; and farther adopts the principle, that on the vessels which contain the faith depends the existence of both Church and State. Belief in the living Jesus is not their only confession of faith. Their Church also is their confession; in fact, it is their religion. All differences of opinion are treated by them with excommunication; and all honourable efforts which appear to threaten danger to their existence, they calumniate. As the Jews acted towards the first converts to Christianity—as the Catholics acted towards the first Reformers—so do they conduct themselves towards the free spirit of the present age. We are far from defending the excesses or extravagances of this spirit, but neither can we deny even to them a deep source. The reclamations which have been made deserve the most serious attention; some of them have been called forth by the conduct of the public authorities themselves, who have sided with the believers in forms. Christianity and the Gospel, however, need no outward support. The contest of the church is a spiritual one, and the field must be left free. Something must be done towards calming the minds of the masses; and the long felt want of a constitution for the Church, in which all lay members shall be allowed to become active fellow-labourers in her edification, must at length be supplied. With these views, the Magistrates and Civic Council present to your Majesty the present dutiful address, praying that you will be pleased to summon a convocation drawn from all the provinces of the State, which may prepare a programme of a constitution for the church, based on the principle of participation by the congregations in the management of its affairs."

* Die testamentliche Ueberlieferung bleibt uns beständig Grundlage des Glaubens, aber jeder Christ hat die Pflicht, die Ueberlieferung mit freier Pruefung aufzufassen.

After receiving this address, the King of Prussia summoned the whole body of the magistrates and town-council before him in person, and gave them a severe lecture. He told them that the town-council, during the last thirty years, had shewn very little religious zeal; that there are no more churches in Berlin now, when its population amounts to 350,000, than there were when that capital contained only 70,000 inhabitants, &c. ; farther, that they had openly declared in favour of the Rationalists, and attacked a party which, if he as king had to decide, would be that towards which he would lean—a party which was to be blamed only for confining itself too much in its sphere of evangelical activity, &c.

Whilst this article is in the press, we have just learned that the Council met and resolved to communicate his Majesty's address to the Stadtverordnete (a body elected by the citizens, and intrusted with the power of imposing and administering the taxes on the town, and other important functions); and also to publish all the documents connected with the matters in question for the information of the public at large. At the same time, an answer was drawn up to the speech of the King, in which the Council replied, one by one, to the charges brought against them by his Majesty, supporting every contradictory statement by reference to facts generally known to the public. When all these documents were laid before the censors, the permission to print the reply was refused; upon which the Council appealed to the higher tribunal charged with the supervision of the censors, reserving to themselves the final step, if justice should be denied to them, of publishing their answer in the foreign journals, in which the speech of the king, containing the charges against them, had appeared.

It is mentioned at the same time in the German papers that strenuous endeavours are being made to induce the Primate Eylert and the Bishop Dräseke to withdraw their signatures from the protest. It is stated also that the Protestant princes contemplate holding a congress, by representatives, for the purpose of devising measures for the protection of the Protestant religion.

The effects of these movements will probably not be confined to Germany. The elements of discussion are too abundant in this country, and the subject is too momentous and exciting, to allow us to shut our eyes to the chances of an agitation arising here. Will Sir Robert Peel, in the face of this shock to Romanism in Germany, attempt to prop it up in Ireland, by endowing the Irish Roman Catholic Clergy?

Will the Established Churches of the three united kingdoms, in the consciousness of this grand movement of Protestantism in Germany towards freedom from the shackles of state-made creeds and state-paid priests, continue to assert their exclusive right to rule, not only over all ecclesiastical affairs, but also over all public institutions for the education of the people? Will the Puseyites in England, and the followers of the *letter* of Christianity in opposition to its spirit, wherever they are found, continue to assert their own infallibility, and to calumniate as infidels all who entertain opinions more liberal than their own?

SECT. V.—PRESENT POLITICAL CONDITION OF GERMANY.

Germany, as is well known, consists, politically, of a variety of independent states, of which thirty-four are based on the monarchical, and four on the republican principle. They vary in size from Prussia, with a population of nearly fifteen millions, to principalities of a few thousand inhabitants. The population of Austria amounts to nearly thirty-seven millions, but only a comparatively small portion of its subjects are German. Prussia, therefore, is the leading German power. Bavaria stands next to Prussia in importance, the population of this kingdom amounting to nearly four millions and a half. Hanover, Saxony, and Würtemberg, have each a million and three-quarters of souls, and all the other states contain smaller populations. They are united into a great confederacy, the representatives of the different states composing which sit permanently at Frankfort-on-the-Maine, and are named the Bundestag or Diet. In the meetings of the Diet each state has a certain number of votes corresponding to its population. The consequence is, that the controlling power belongs to a few of the larger kingdoms.

The confederacy assumed its present form in 1815, after the final expulsion of Napoleon. Its constitution (called the "Bundesacte") was printed and published in that year. The sovereigns and princes were then conscious of their obligations to their subjects, and at least professed to respect their rights. The thirteenth article of the act of union declares, that "in every state of the confederation a constitution shall be instituted." But no *time* is mentioned, and only in the smaller states has the provision been carried formally into effect. Austria and Prussia have hitherto delayed giving constitutions to their people; while Bavaria, Saxony, Würtemberg, Baden, Hesse-Darmstadt, Hesse-Cassel, and other minor

states, have conceded them. These constitutions, if they were fairly carried into effect, are, on the whole, liberal, and calculated to satisfy the reasonable wants of the people. They establish not only two legislative chambers, the lower one chosen by the people, but the liberty of the press, freedom from personal arrest except on the warrant of a magistrate, the responsibility of ministers, and other important constitutional rights.

Unfortunately, however, the subjects of Prussia and of Austria proper, to whom the same privileges have been denied, use the same language, and lie in such close communication with the people of these constitutional states, that their liberty operates as a constant cause of discontent and agitation in these monarchies. For many years, there has been a ceaseless effort on the part of the Confederation, or rather of Prussia and Austria, who are all-powerful in its councils, to suppress and circumscribe the effects of the constitutions; while the German people have as strenuously defended them, or struggled to acquire them.

From the peculiar circumstances in which Germany is placed, this contest assumes an aspect at once interesting and instructive. There still remains a certain degree of jealousy between the Governments of the different states, one consequence of which is, that a Bavarian censor will allow a paragraph containing a pretty severe criticism of some act of the Prussian Government to find its way into his press, and *vice versa*; or the press of Baden or Würtemberg will be allowed to publish animadversions on Austria or Bavaria, which could never pass the censors of these countries. These publications, whether pamphlets or newspapers, are introduced openly or clandestinely, and to a greater or less extent, into the states against the rulers of which they are directed, and are eagerly circulated and read by the people. Printed liberal political thought is everywhere contraband in Germany, and there is a constant warfare between the individuals who produce it on the one part, to extend its circulation, and the rulers whom it assails on the other, to suppress it, and arrest its influence. This state of things, however, and its consequences, will be best elucidated by selecting the proceedings of one state as a general example, and the Grand Duchy of Baden is well suited to this purpose.

This state lies on the right bank of the Rhine—extends, in a narrow strip, from the Lake of Constance to the neighbourhood of Hesse-Darmstadt—and contains about thirteen hundred thousand inhabitants. It is commercial and agricultural, and contains two universities, those of Heidelberg

and Friburg. It received a constitution, in virtue of which it enjoys an Upper Chamber, named by the Grand Duke, and a House of Representatives chosen by the people. The suffrage is nearly universal ; every man who is a householder, or exercises a profession or trade as a master, has a vote, but not directly. The persons thus qualified choose delegates, who elect the representatives.

The constitution provides for the responsibility of ministers, the liberty of the press, freedom from arrest except on a legal warrant, the right of all judges, professors, schoolmasters, and other public functionaries, to hold their offices *ad vitam aut culpam*, although nominated by the Government. The external conditions of political freedom, accordingly, are here pretty liberally provided. Add to these the fact, that the Grand Duke (and the same holds good in all the states of Germany except Austria) *has no standing army* with which to maintain his own authority or to coerce his people. Here, as in other states, the military force is composed of the young male population, trained for three years to arms, and then returned to the occupations of civil life. In such circumstances, an educated and intelligent people have their destiny in their own hands ; and the inhabitants of Baden have made this discovery.

They felt that one great obstacle to their enjoying the benefits of their constitution, was the want of men of sufficient fortune and leisure to be able to devote their time to legislative duties. In this extremity, they, in many instances, elected functionaries, in the pay of Government, as their representatives in the second chamber ; and, at first, the ministry pretty generally granted leave of absence from their proper duties to such delegates. But in the progress of events, some encroachments were made by the Government on the rights of the people, and a strong opposition sprang up in that chamber, embracing even some of these delegates, servants of the state. The Baden Ministry could not dismiss these refractory functionaries from office, because they held their appointments for life ; but they refused leave of absence from their official stations to all of them of whose opinions they disapproved, and thus nullified their election. This led to a claim on the part of the second chamber and of the people, to leave of absence for all public functionaries from their local stations, *as a right* consequent on election ; coupled with an offer to provide, in the annual vote of expenses, a sum sufficient to recompense substitutes for performing their duties during their attendance in the legislative chamber. The Ministry disputed this claim, and dis-

solved the chamber on the question; and in the spring of 1842 a new election took place, in which the Government not only openly required all its servants to support it, but instantly punished those who were refractory by the only means in its power, viz., by removing them from the places in which they were located (as they believed for life), and sending them to exercise the same functions in distant quarters; a change which operated on them practically as a species of banishment. Nevertheless, the liberal party returned so large a number of members, that the minister, Baron Blittersdorf, was forced to resign, and retire into some distant employment. The question itself, however, is not yet finally settled. An election for the fourth part of the members of the Chamber of Deputies who go out by rotation, was completed in October 1845, and the Government lost four votes, instead of gaining, as it had hoped to do. The result was by no means satisfactory to the ministerial party.

The relations of Baden with the German Diet are equally unquiet. Prince Metternich, as the plenipotentiary of Austria, early laid down the rule, that the Diet of the Confederation is the "supreme political power in Germany," and that all acts of the individual states at variance with its provisions, are, *ipso facto*, illegal and inept. Acting on this principle, a congress of ministers deputed by the leading states of Germany assembled at Carlsbad on the 20th of September 1819, adopted the following, among other resolutions:—*1st*, That the universities shall be subjected to a strict superintendence; *2dly*, that no daily or other periodical work, nor any book, unless it shall exceed twenty sheets, shall be published in any state of the union until they have been previously revised and sanctioned by the public authorities; and *3dly*, that a central commission, consisting of seven members, shall sit in Mayence, charged with the suppression of all revolutionary tendencies in the states of the Confederation.

These or similar resolutions inimical to public liberty, were continued or adopted by subsequent acts of the Confederation, dated 16th August 1824, 27th October 1831, 28th June 1832, 5th July 1832, 12th June 1834, and 29th July 1841; and the result has been, that while in the constitutional states political liberty is conferred on the people by their constitution and laws, these are borne to the ground by the resolutions of the Diet, which compels the Governments of those states to act, in many respects, in direct contradiction to their own laws and the rights of their subjects. The principle of moral agitation, however, is perfectly understood and practised by

the injured people and their leaders ; as the following example, again taken from Baden, will illustrate.

M. Gustav von Struve is the son of a German baron, who for many years was employed in the service of Russia ; and he himself, in his younger years, held a subordinate office connected with the German Diet. By this means, he became acquainted with its acts and its spirit. He subsequently was admitted as an advocate in the Supreme Court of Baden, and entered into practice in Mannheim. He is a man of unimpeachable moral character, and of great attainments ; he is capable of reading and writing the French, English, and Italian languages, and is acquainted with the literature and political history of these countries, besides being conversant with constitutional law. He was lately appointed editor of the *Mannheim Journal*, a daily paper, circulating extensively in that and the neighbouring states. He took the side of the people, and was speedily subjected to the most rigorous censorship. This has led to the following occurrences.

About three months ago, he printed a thousand copies of a work, entitled " Correspondence between a former and a present Diplomatist,"* exceeding twenty sheets in size, and consequently not subject to the censorship. He took his ground on constitutional law, cited the provisions in favour of German liberty contained in the act of Confederation of 1815 ; appealed to the constitutions of his own and other states, guaranteeing the rights of the people ; asserted the responsibility of the ministers of the different states for every act that had been committed in opposition to those concessions ; and charged them boldly and eloquently with being the real destructives, the revolutionists, the subverters of law and order in the German union, and claimed for himself and the constitutionalists the character of Conservatives—of being the true friends of legitimate government, and the supporters of social order. The work was based on documents and facts which were authentic and irrefragable ; and the argument was logical and irresistible. The Confederation, he affirmed, solemnly guaranteed constitutions to all the German States, and then withheld them from the most influential, thus trampling a compact under foot by mere physical force. Austria wields this force, because she has a standing army of 370,000 men, and her dictation cannot be resisted, except at the

* Briefwechsel zwischen einem ehemaligen und einem jetzigen Diplomaten, von Gustav v. Struve, Mannheim 1845.

hazard of a civil war. When, said he, the constitution of Baden, which the Grand Duke solemnly swore to maintain, provides freedom of the press, and, nevertheless, the Confederation compels this Prince to act in opposition to the guaranteed rights of his subjects, and in violation of his own oath,—what is this but an example of the most reckless disregard of law and right? And if the Confederation and Sovereigns teach the people by their own acts to trample compacts, and constitutions, and vested privileges, in the dust, when it suits their interest and caprice, can they justly be surprised if the people should, in their turn, imitate their example, and, by a great simultaneous exercise of power, deliver themselves at once and for ever from such rulers? Several of the letters are addressed to Prince Metternich, as the minister of Austria responsible for these acts, and they urge home upon him the legal and constitutional argument with great ability, drawing also a sketch of the sentence which posterity will pronounce on his public character and conduct.

Several hundred copies of this work were sent to Prussia, an ample store to Austria, and copies to all the other states, before its existence was even alluded to in Baden. At last, when notice came to the publisher that all these had safely reached their destinations, the work was announced in Mannheim. It excited great and immediate interest, but the Government took no measures against it. At last, a visit from Prince Metternich was announced; and the day before his arrival the police invaded the publisher's shop, and seized the whole impression then on his shelves. This amounted to fifteen copies! for the visit had been anticipated, and provided against. The seizure was reported to the Prince on his arrival. But had the author been prosecuted? It was promised that this should immediately be done. But the law of Baden requires that a criminal process shall be instituted within three days after the seizure; and although one was served on him, this was not done till after the expiry of this period, when it had become unconstitutional and inept! M. Von Struve was prepared, when we saw him in September, to defend himself on these grounds, and feared neither fine, imprisonment, nor any other infliction. In point of fact, we have learned that he has since been acquitted by the Court before which he was tried.

Meantime, he was assailed by ten actions at the instance of the censor, for breaches of the regulations of the press in his daily journal, and he brought before the court of law to whose jurisdiction the censorship belongs, twenty complaints against the censor for illegal suppression of his articles. All

these processes are conducted in writing ; and when we saw M. Von Struve, the proceedings had already exceeded twenty printed sheets in extent, and he was busy printing the whole *verbatim et literatim*, his own words in black ink, and the censor's in red ink ! This collection will be published as a book, for the instruction of the German people concerning the spirit in which the censorship is wielded.

M. Von Struve has been condemned to fines of 5s., 7s. 6d., 25s., and 30s., for sundry offences against the censorship, and refused to pay them, as being illegally imposed. The authorities had not enforced them, but he was expecting a seizure and sale to be made of his household furniture ; which he disregards.

The people are not unconcerned spectators of those events. A public meeting in Mannheim was advertised to support M. Von Struve, by resolutions and an address. The Government sent orders to the police to prevent or disperse it. The warrant or instructions were asked for and provided, and they bore reference to a meeting in a specified place, and at a specified hour. The persons present adjourned to another hall, and before the officers could obtain fresh instructions, liberal resolutions were proposed, seconded, adopted by acclamation, and sent off in the form of a petition to the Grand Duke himself at Karlsruhe !

The press contrives, by some means or other, to communicate those events all over Germany, and the agitation everywhere proceeds. From the circumstance that no state, except Austria, has any standing army, the German Governments feel themselves powerless to resist a movement in which their people generally take part. Hence their hesitations and vacillations, notwithstanding their fear of Ronge and of popular meetings. Hence, also, the enthusiasm with which the new reformation is hailed. The casting off of authority ; the formation of independent congregations ; the luxury of meeting in masses, for any moral object, all recommend the movement to the acceptance of the people ; and unless the enthusiasm now abroad shall speedily exhaust itself, or be checked by force, we may expect a free constitution for Prussia and the fair exercise of the existing constitutions in Germany as no distant results.

NOTES ON NATIONAL EDUCATION,

AND THE

COMMON SCHOOLS OF MASSACHUSETTS.

THE speech of Lord Wharncliffe revived the hopes of the friends of education, which had been much darkened by the educational clauses in the Factory Bill. We regretted that, in resisting these clauses, the Dissenters stopped short in mere opposition. They should have demanded boldly a system of education, free from all sectarianism, for the universal people. Much as the different sects may accomplish, each in educating the children of its own adherents, still a large number of the young will be left uninstructed, until the Government shall undertake the task. In the extent of its uneducated masses Great Britain forms the opprobrium of Europe. There is no Christian country, nearly approaching to her in wealth, science, and industry, which has not established schools for the universal education of its people. We are unwilling to concede that, owing to the power of the Established Churches and the multitude of Dissenters, it is *impossible*, in this country, to accomplish a similar object. Obstacles, nearly equal to any that present themselves here, have been overcome in the United States of North America. Among the citizens of the American Union, may be found the most ardent and zealous sectarians, and the most dogmatic and fiery politicians, each armed with constitutional power, by his votes, to give efficacy to his own will, and to counteract the designs of his neighbours. Nevertheless, in most of the States, the obstacles to public in-

struction have been surmounted; and Jew, Christian, and unbeliever, unite in maintaining schools in which the children of all receive a highly valuable moral, intellectual, and religious education. We say *religious* education; because we have recently received a pamphlet from Massachusetts, which shews that religious instruction is communicated in the common schools of that State; and a brief exposition of the extent to which it is carried will enable our readers to judge whether, compared with the profound ignorance in which so many of the children of our labouring classes are left, the religious teaching in these schools is not a benefit of the highest order to the community; and whether similar schools could not be introduced with advantage into Britain.

The pamphlet is entitled, "The Common School Controversy," and was published in Boston, U. S., in the month of June 1844. It presents, in vivid, and we believe true, colours, a picture of the system of common schools now in operation in that state, and of the obstacles with which it has had to contend.

The discussion to which the pamphlet refers, originated in an attack in the *Christian Witness and Church Advocate*, of 23d February 1844, by the Honourable Edward A. Newton, of Pittsfield, on the Board of Education and its Secretary, for not teaching "orthodox Christianity" in the common schools. This newspaper is the acknowledged organ of the Episcopalians in Massachusetts; the opinions of Mr Newton were espoused and defended by the editor; and were, therefore, regarded as generally entertained by the members of this highly respectable and influential sect. The attack led to a defence of the common schools by the Secretary, a rejoinder by Mr Newton and by the editor of the *Witness*; and subsequently to a very able, temperate, and instructive "controversy" in the public press, by men of all parties and sects, in which the terms and interpretation of the law establishing common schools, the institution of the Board of Education, and the working of the system itself, are pretty fully expounded and very freely discussed. The result is a concurrence of orthodox men, of the highest standing, with Unitarians and other Liberals, in a strong and decided approval of the system of common schools as actually administered; the Episcopalian, Mr Newton, and the *Witness*, standing alone in its condemnation. It is cheering to read the cordial and sincere testimony borne by men of one religious sect to the excellent qualities of individuals of other denominations, who differ from them on the most important points of Christian doctrine; and still more so to see that, amidst all these

differences, the best of men of every sect have found it possible to co-operate in the great cause of public education.

We shall glean a few of the facts and opinions, which, being of general application, may interest our readers; and only regret that the length of the discussion prevents us from presenting the "controversy" entire.

New England was first permanently settled by the "Pilgrim Fathers," on the 20th of December 1620. Although they had left England for the sake of freedom to worship God as they pleased, yet their first act, in their new country, was to exclude "from *civil rights* all who did not believe with them." Nay, "they enforced upon others the adoption of their own creed, by imprisonment, exile, and death." "Nor is it wonderful," says Mr Alfred D. Foster, an orthodox member of the Governor's Council of Massachusetts, "that they all thought themselves justified in taking such ground, after all they had suffered to gain a place in the wilderness. But neither they nor their descendants would take that ground now, for the excellent reason, that persecution can never justify persecution."

The existing law of Massachusetts (Revised Statutes, 1835, title x., chap. 23), ordains that districts containing fifty families shall maintain one school; districts containing one hundred and fifty families shall provide two schools, and so forth, "in which children shall be instructed in geography, arithmetic, and good behaviour, by teachers of competent ability and good morals." Larger districts, again, are required to maintain a school, "in which the history of the United States, book-keeping, surveying, geometry, and algebra, shall be taught." And if the locality shall contain *four* thousand inhabitants, the teacher shall, "in addition to all the branches above enumerated, be competent to instruct in the Latin and Greek languages, general history, rhetoric, and logic." The law requires the inhabitants to raise money by taxing themselves for supporting these schools, and ordains them to appoint committees annually for managing them.*

The grand object of the controversy, however, is, What, in conformity with law, may be taught in these schools in the name of religion? On this point the "constitution" of Massachusetts requires that all children shall be taught "the principles of piety, justice, and a sacred regard to truth, love to their country, humanity, and universal benevolence, so-

* Farther details concerning the machinery by which the schools are managed, and the taxes levied, in Massachusetts, will be found in an article in the *Edinburgh Review* for July 1841, under the title of "Education in America."

briety, industry, and frugality, chastity, moderation, and temperance, and those other virtues which are the ornament of society, and the basis upon which a republican constitution is founded." The "constitution" goes no farther in specifying what things may be taught; but by the laws of the State, the school committees are authorised to prescribe the books which shall be used in the schools, under the restriction imposed by section 23d of the Revised Statutes—that they "shall never direct to be purchased or used in any of the town schools any school-books which are calculated to favour the tenets of any particular sect of Christians." This prohibition was *first* enacted in 1827; but in 1835, when the statutes were revised, it was retained and re-enacted by "an almost unanimous vote in both branches of the Legislature, and was approved of by that orthodox gentleman, Samuel T. Armstrong, then acting Governor of the State." It was the execution of this clause which gave rise to the "controversy."

The Bible is allowed to be read in all, and is actually read in nearly all of the schools, and, of course, whatever it teaches is taught. But the editor of the *Witness*, in the name of the orthodox Episcopalians, puts the question, "What says the law? It prohibits the teaching of those things 'which favour the tenets of any particular sect.' Well, of what *particular* sect does it favour the tenets to teach that 'God was in Christ reconciling the world unto himself'—that 'we are by nature children of wrath'—that the 'blood of Jesus cleanseth from all sin'—and that 'by grace we are saved through faith?' Are these truths, which are the sum and substance of the Gospel, distinctive of any 'particular sect?' No, thank God, they are the common ground of the great body who profess and call themselves Christians. To teach anything *less* in the name of religion is sectarian, for it must be the tenet of some particular sect, and not of the church universal."—P. 16.

The Honourable Edward A. Newton supports this argument by stating that the orthodox denominations made together "at all times, and now make, *nine-tenths* of the population of the commonwealth."—P. 22.

The Secretary to the Board of Education made a twofold answer to this argument:—*1st*, He presented a numerical statement of the religious denominations, who are all taxed equally to support the schools, and each of which has an equal right with its neighbours to prevent doctrines from being taught in them which it considers to be unsound. "The population of the State," says Mr Mann, "is now about 750,000. One-tenth is 75,000. The Universalists alone are estimated at

nearly or quite this number. The number of Unitarians may be somewhat though not very much less. The *Christians* have between twenty and thirty organised societies. While there are very few orthodox people belonging to Unitarian congregations, it is well known that there is no inconsiderable number of Unitarians who worship with the orthodox. The opinion of some of the best informed men is, that at least *one quarter* of the people of Massachusetts are what is called, by way of distinction, Liberal Christians. Some estimate the numbers at one-third. Then there are the Nothings and Deists, who, taken together, are probably more numerous than either of the above."—P. 25. This statement is made by the Honourable Horace Mann, in a letter, dated 29th May 1844, and is not disputed by any of the subsequent writers in the "controversy."

2d, Mr Mann adds—"You insist that in our public schools, established for the whole, and supported by taxes levied upon the whole, certain scriptural doctrines shall be taught, such as that 'God was in Christ reconciling the world unto himself,' &c. Very well. The Bible is now read in all our schools, almost without exception, and in the great majority of cases it is read by the scholars themselves. These doctrines and declarations being in the Bible, are they not in the schools also?" Farther, "Under the provisions of the constitution and laws, children may be taught to love the Lord their God with all their heart, and their neighbour as themselves; they may be taught to do to others as they would be done by; to do justly, to love mercy, and to walk humbly with God; they may be taught to visit the fatherless and widows in their affliction, and to keep themselves unspotted from the world; they may be taught to honour father and mother; to keep the Sabbath holy; not to steal; not to kill; not to bear false witness against neighbours; not to covet. Nay, Sir," continues Mr Mann, "I refer you to that awe-inspiring description of the judgment in the 25th chapter of Matthew, and I say that there is not a single *action* or *omission* there mentioned, for which the righteous are to be rewarded and the wicked punished, that may not be taught, inculcated, or warned against, in all our schools. Such, also, I know to be the opinion of the Board of Education. Are all these things, and everything else of a kindred character, which the Scriptures contain, *non-essentials* in Christianity? But perhaps you desire something more for the schools? Perhaps you desire, not only that these passages (those quoted by the *Witness*) should be read, but that certain articles of faith, or formularies, more or less in number, em-

bodying these passages in a manner more acceptable to you than is found in the original texts, should be taught with them?" This is what is prohibited by the law.—P. 12.

Mr Mann continues—"I have now received more than a thousand reports from the school committees of the respective towns (districts) in the state, detailing the condition and wants of the schools. Probably a majority of them were written by clergymen. In these reports, no subject has been more freely discussed than that of moral and religious instruction, and how far the latter might be carried without trenching upon the rights of individuals; and with only two exceptions—less, therefore, than one in five hundred—the voice of these committees has been unanimous in favour of our constitutions and laws on the subject of religious instruction, as they now stand. Every one of these reports, also, was accepted in open town meeting, and, therefore, must have received the sanction of the town whence it came."—P. 13.

Mr Mann mentions a fact which would have appeared to us incredible, if not stated on indubitable authority, viz., that our countrymen, in reprinting American religious books, are guilty of mutilating them to make them support their own peculiar sentiments. "I might fortify these views," says he, "by the opinions of eminent orthodox individuals belonging to other states. Read the excellent chapter on 'Religious influence,' in a work by the Reverend Jacob Abbot, entitled 'The Teacher,' and you will find that his views on this subject exactly coincide with those I have expressed. Let me caution you, however, to read an American, and not the English edition of this work; for, in the latter, the chapter on 'Religious Influence' was *wholly left out*, to suit the meridian of that country"!! We have seen the Americans stigmatised for their low standard of morality in mutilating *English* works to suit them to American prejudices; but here is their own bad example imitated by the nation which points the finger at them for their want of principle, and apparently also by *religious persons* of that nation for religious purposes!

The editor of the *Witness* replied, that the precepts of Scripture cited by Mr Mann, as allowed to be taught, "are very well so far as they go; they are important to the social uprightness and welfare of man; but they leave untouched what we and all orthodox Christians esteem the essentials of Christianity—the way of salvation by Jesus Christ." "We will not be diverted," says he, "from the great question, whether the exclusion of what is distinctive in Christianity, as a way of salvation, from our public schools, be not an un-

christian measure which orthodox Christians ought to observe and think of."—P. 14.

Those quotations contain the substance of the topics brought under discussion in the "controversy," and we shall now cite the opinions of several orthodox men of high consideration on the merits of the question, whether the orthodox views should, or should not, be taught in the common schools.

The condensed summary of the law relative to religious instruction in the common schools of Massachusetts before given, shews that the main feature of the enactments on this subject is the prohibition to "purchase or use in any of the town schools, any school-books which are calculated to favour the tenets of any particular sect of Christians." We proceed to cite the views of this prohibition entertained by some of the first citizens of the state.

The Hon. Alfred D. Foster writes as follows:—"I am, Sir, a decided believer in the doctrines of grace, as held by orthodox evangelical Christians. In them to me are the spirit and life of the Gospel—on their truth rest my hopes of heaven. I must teach them to my children, for, in my opinion, it is through love and obedience to them, that my children, as well as I, must be saved, if saved at all. But have I a right to insist that they shall be taught to my children in a school supported by me only in common with those whose faith is different from mine, and to whom my faith is both a stumbling-block and a foolishness? I say no: and I think the laws and common sense say, and should continue to say, no. My next-door neighbour feels a deep interest in the cause of common school education; he is active in promoting it; he pays as much towards it as I do (though this last circumstance is of no consequence); he desires good morals to be taught, and many of the great religious truths which I hold; but the Trinity, man's depravity, the atonement, spiritual regeneration, to me realities of revelation or of consciousness, are to him, not truths but imaginations. I wish we might see eye to eye; I may properly, with kindness, shew him my reasons for my faith, and urge them upon him; but I do not feel any more that I have a right to compel him to have his children taught those doctrines in school, than he has a right to compel me to have my children taught the doctrines of Socinus, which I regard as wholly unsupported by Scripture, and feebly by reasoning. What then can we do? We can meet where the constitution and

the laws allow us, on all common ground. Where we differ, we can peaceably separate and teach our children, or procure them to be taught, what we believe to be religious truth. The means are at hand in our families, in Sunday schools, from the pulpit. This, I think, we ought to do. And when so much is to be done, which all agree in thinking desirable, I regret exceedingly that obstacles should be thrown in the way of doing it, because our own religious views cannot be taught. Such seems to me the effect of a course like that of the *Witness*.

“The Board of Education, and its Secretary, are earnestly endeavouring to do a great and good work for the people, by stirring up the people to work for themselves, wisely and energetically. A debt of gratitude is due to those gentlemen for the results of their labours thus far—seen as those results are, in improved school-houses, in the increased amount of money raised for schools, in the interest felt in them, and *in this very opposition to the course they are pursuing. While the schools were running down in houses, instruction, and morals, who raised an alarm for their orthodoxy?* Now that they are coming up, let us help, not hinder, their progress, and have no fears that sound learning, good morals, or good manners, will lead to heresy or spring from it.”

The same gentleman addresses a letter to the Hon. E. A. Newton (who was the first to lead the attack against the Board of Education), in which he says—“I readily accord to you the purest motives, and really suppose you desire only to contend for truth. I ought to believe this, if I may judge from the very pleasant acquaintance and intercourse I have had with you; and so far as the great doctrines of the Gospel are concerned, I do not suppose that we differ as to what is truth, or its importance. But you or I err greatly as to the manner of advancing the truth, through common schools.

“If you are right, then our common schools must become the battle-ground of warring sects, each fighting to advance its own views, for the reason, that except those views prevail, all that is learned will be useless, if not positively injurious.

“If I am right, then we may find in our common schools one blessed spot which is truly neutral ground, where each sect may lay aside its weapons of offence, and all drink together from fountains of knowledge refreshing to the soul, though they do not sanctify it.

“If you are right, then ignorance is better than knowledge uncombined with our peculiar views of religious doctrine.

"If I am right, ignorance is never better than knowledge, anywhere, nor with any religious opinions."

Nothing can surpass the excellence of these sentiments and their beneficial tendency. They breathe the spirit of real Christianity, as well as of philosophy and patriotism. We rejoice to remark that other orthodox men are animated by the same admirable principles.

A letter signed T. P., which is understood to be "from a gentleman of high standing in this community," says, "The Board (of Education) has been selected with great care, and (as it has always been acknowledged) with great impartiality. If the demon of party-politics has knocked at the door, I believe it was never opened to him. Of the secretary himself, I am almost unwilling to speak as I think. *Between him and myself*, as I have already said, *there exists the extreme difference of religious doctrine*; and there is no personal intimacy to affect my opinions; I judge of his character only by his public doings and sayings. But I have observed his career for years." Here a variety of Mr Mann's public services are enumerated and eulogised. "In important public offices, I have witnessed his unsurpassed devotion to duty; and now all his hours and all his faculties are earnestly employed in the great work of public education. He may continue to be assailed from time to time, as he has always been, by those who cannot be willing that the gifts of God should come to man unless they pass through the channels which they suppose themselves to have sounded, and are, therefore, ready to sanction. *But if all men were of this mind and mood, the plague of a greater than Egyptian darkness would be near us.* Happily it is not so; and I hope he will go forward on his way of usefulness, cheered no less by the consciousness of good endeavours than by the evidence of success, and strong in his own excellent purposes, and in the sympathy of all who find in the good he seeks an end which all good men may desire."—P. 40.

Such sentiments as these, publicly expressed by men entertaining extreme differences of opinion on religious doctrine, are refreshing and highly encouraging to the genuine philanthropist. And what has produced this admirable and truly Christian spirit in a community which exists in a state of habitual and high religious and political excitement? It is the perfect equality of all sects in religious privileges and political power. The pride of domination engendered by national establishments of religion deadens the just and generous affections in all but the highest minds in their communion; while the sense of injustice, oppression, and exclu-

sion, is constantly irritating those who are compelled by conscientious views of truth and duty to separate from the Church established by law. In this country, the necessity of a national and efficient system of education for the universal people is becoming every day more and more apparent and pressing. It will be impossible to realize it, except on principles of equality similar to those in operation in Massachusetts. If the privileges of the Established Churches in the United Kingdom render this impossible, their own existence is in danger; because it will be difficult to persuade the nation, after this fact becomes apparent, deliberately to sacrifice its vital interests for the sake of preserving peculiar privileges to sects which obstruct the general welfare. If the alternative of consenting to universal education or of self-immolation were presented by the public voice to these churches, we believe that they would yield their pretensions to control the education of the entire people rather than surrender their own existence; and that a firm and enlightened ministry, backed by public sentiment, might place this question on its proper basis. If such a system as that of Massachusetts were tried in this country, in which all sects should be taxed equally for the support of schools, all sectarian doctrine should be excluded, and all sects rendered equally influential in the administration of the schools and school funds; then, unless we acknowledge ourselves far inferior indeed, to the Americans in virtue and understanding, the scheme should succeed here as well as there. If the Dissenters, like the "*Witness*" of Massachusetts, should object to this course, and insist on sectarian doctrines being taught in the schools, the cause would be hopeless, and a new reformation in religion, with a political revolution, would present themselves as the apparent alternatives; for no reflecting individual can believe in the permanency of the present state of society in the United Kingdom.

The Massachusetts system is recommended to Government by one great advantage—it executes itself. The law prescribes the number and kinds of schools to be established and kept up, and commands the people to tax themselves for their support, and to appoint committees of their own number to manage them. It prohibits the introduction of sectarian teaching and sectarian works. It establishes a board of education and a secretary to superintend the whole, but gives *them no powers of compulsion. They exercise a moral influence only.* They can neither appoint nor remove teachers, prescribe nor prohibit books, levy one shilling of money, nor do any other act or deed, except require each school

committee of the state to report, in writing, annually, the extent to which it has complied with the law ; to circulate information, and to tender advice. The board presents an abstract of these reports annually, accompanied by a report from the secretary, to the Legislature ; and the effect has been marvellously great. In almost every district there are individuals sufficiently patriotic and enlightened to enforce the law on those who are indifferent to its execution ; in every district there are active members of every sect who watch, denounce, and expel sectarian teaching ; the Board of Education is composed of members representing the opinions of all the leading sects, and each serves as a check on all the others. The Board sanctions the publication of school-books, but none can go forth under their auspices, unless it be unanimously approved of ; and even when so sanctioned, it is presented to the district school committees under the moral recommendation alone of the Board. The committees may admit or reject it as they see proper. Finally, the wide circulation, at the expense of the state, of the annual school returns, abstracted and commented on by the secretary, informs the whole community concerning the districts which are performing, and those which are neglecting, their duty to the rising generation, and to their country ; and public opinion thus enlightened, shames even the most obdurate and insensible individuals into improvement.

The secretary is the only salaried officer of the state connected with education, and he receives £300 a-year, for which he devotes the whole of his time and energies to the cause. He lately visited this country, when we had an opportunity of forming his acquaintance ; and we know that he was by profession a lawyer, has been a senator, and is a man of first-rate talent and high moral worth. His whole soul is devoted to his duties ; and he appears to be conferring on his countrymen an incalculable amount of good. If an American democracy can devise and execute such a system of education, how must we hide our diminished heads, if we shall be forced to confess that by selfishness, exclusiveness, and bigotry, we are incapable of rivalling them in such a Christian work.

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ANSWER BY GEORGE COMBE

TO THE

ATTACK ON "THE CONSTITUTION OF MAN,"

CONTAINED IN

"NATURE AND REVELATION HARMONIOUS: A DEFENCE OF SCRIPTURE TRUTHS ASSAILED IN MR GEORGE COMBE'S WORK ON THE CONSTITUTION OF MAN, &c., BY THE REV. C. J. KENNEDY, PAISLEY; PUBLISHED UNDER THE SANCTION OF THE SCOTTISH ASSOCIATION FOR OPPOSING PREVALENT ERRORS."

"Why beholdest thou the mote that is in thy brother's eye, but considerest not the beam that is in thine own eye?"—MATTHEW viii. 3.

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NOTE.—*The following pages first appeared in the Phrenological Journal, No. 93, for October 1847 ; but as Mr Kennedy's work may have reached individuals who do not read that Periodical, the article has been revised, and is now presented to the Public in its present form. Its origin will explain the use of the plural number, and of the third person, in speaking of the author and his book.*

G. C.

ANSWER, &c.

In 1845 an association was formed in Edinburgh by "a number of friends of evangelical truth," for "opposing prevalent errors." James Douglas, Esq. of Cavers, is, or was, the chairman, and the Rev. William Thomson, the Secession minister of Slateford, a small village near Edinburgh, is the secretary. The "prevalent errors" which the Society considers itself called upon to oppose, are, "Popery," "Puseyism," "Pantheism," "Anti-Supernaturalism," "Socialism," "Combe's *Constitution of Man*," and the "*Vestiges of the Natural History of Creation*." Mr Kennedy's work, mentioned in the title page, has been published under its sanction, and is the best of the books that have been written against "The Constitution of Man."

The secretary of the Association, in his official circular, acknowledges, that "there is little in the piety or principle of the mass of the population to which we can confidently look as a barrier to this tide of superstition." This is an ominous avowal, and one which—taken in connection with Dr Chalmers's declaration in the North British Review for February 1847, that, "as things stand at present, our creeds and confessions have become effete"—looks uncommonly like an avowal of failure by men who have been engaged in a vain attempt to *maintain* "prevalent errors." It forms a strange prelude to the announcement, that, notwithstanding this failure, they consider themselves qualified to undertake the gigantic task here presented in outline.

Since the Revolution in 1688, the clergy of Scotland have enjoyed the privilege of governing parish schools, and instructing the people in religion; and if, in the year 1847, they are constrained to acknowledge that their "creeds and catechisms have become effete," and that they have been able to infuse so "little piety or principle into the mass of the population," that they cannot resist Popery and Puseyism, and the various other "isms" before enumerated, they should really look into their own standards and tenets, and see if there be not in them some "vestiges" of error which have been the causes of so great a failure. Strength, solidity, and endurance, are the characteristics of truth; instability, feebleness, and decay, those of error. When, therefore, they acknowledge, that, after so long period of teaching, the latter

characteristics attach to their own tenets, they should be modest in their condemnation of those of other men. It is, perhaps, a consciousness of this fact that has led them to add that they "feel the need of prudence and caution." These, certainly, are becoming principles of action in men who are meditating assaults upon the opinions of their neighbours, while their own positions are exposed to danger. We shall, however, endeavour to shew that they stand in need of even more of these virtues than they have exhibited in the present publication.

At the same time, we have great pleasure in making one acknowledgment in favour of Mr Kennedy's work. It is free from vulgar vituperation and denunciation. It is, moreover, well written, and, in some instances, ingeniously argued; and it is altogether superior to any thing we have seen produced on that side of the question. Unfortunately, we cannot carry our commendations farther. It assumes throughout that the Scotch Calvinistic *interpretations* of the Bible are the *Scriptures*, and that no different interpretations have ever been heard of; or at least none that are deserving even of mention. In *The Constitution of Man*, Mr Combe has quoted the following words of Dr Whately. "If we really are convinced of the truth of Scripture, and consequently of the falsity of any theory (of the earth for instance) which is really at variance with it, we must needs believe that that theory is also at variance with observable phenomena; and we ought not, therefore, to shrink from trying the question by an appeal to these." Mr Kennedy answers—

"With all due deference to this high authority, we maintain that, if Mr Combe's doctrines are really at variance with Scripture, and if we are really convinced of the truth of Scripture, we must conclude that Mr Combe's doctrines are false. The reasoning is so obviously fair, that we have no fear to exhibit it, either to Mr Combe or to the great logician whom he quotes. It stands thus:—

What is really at variance with Scripture cannot be true;
Mr Combe's theory of the world is really at variance with Scripture;
Therefore, Mr Combe's theory of the world cannot be true."

With all deference to Mr Kennedy, the Archbishop of Dublin is in the right. The record of nature is beyond all question Divine; and whatever we read correctly in it is Divine revelation. Hence it follows, to use the Archbishop's words, that "a pretended revelation would be proved not to be a true one, if it were at *variance* with the laws by which the Maker of the universe governs it." (*Essay on Christian Self-denial*.) Mr Kennedy, therefore, and his Society, and all other persons who assail expositions of scientific truths, by arguing that

they are at variance with the doctrines of Scripture, mistake the way to accomplish their own ends. Their true duty is to expound the laws of nature themselves, directly from the records of creation, and then to shew that their own interpretations of Scripture are in harmony with them. The title of Mr Kennedy's work would lead us to expect that he had done this; but his leading object has been only to attack Mr Combe's doctrines.

Dr Chalmers was called upon, in the Bridgewater Treatise assigned to him, to present a view of the moral government of the world by natural laws, if such exists; and had he given a sounder and more practically useful exposition of them than that contained in "*The Constitution of Man*," and afterwards reconciled Calvinism with it, he would not subsequently have been under the necessity of acknowledging that men "can speak, and with a truth the most humiliating, of our inert and unproductive orthodoxy." Calvinism, proved by an appeal to scientific facts to be a correct interpretation of nature, so far as its doctrines touch the beings and interests of this world, would exhibit none of the symptoms of weakness and decay before referred to; and a people instructed in the firm alliance between it and nature, would possess not a "*little*," but *much* "of the piety or principle to which we can confidently look as a barrier to the tide of superstition."

The Society of which we speak will do well to take this hint into consideration. "*The Constitution of Man*" is a body of alleged facts, and deductions from them. Mr Kennedy's work cannot take its place, because it contains no systematic exposition of the scheme of God's works and natural providence, which it is the aim of Mr Combe's treatise to exhibit. The human mind will not relinquish a positive for a negative, when that positive is acknowledged by Mr Kennedy himself to be "characterized by great ability," "its deleterious principles" being "mixed up with a large body of sound, and valuable, and interesting instruction." In the "*Remarks on National Education*," and in the essay on "*The Relation between Religion and Science*," Mr Combe has presented additional materials for the Society's operations. If they really design to make an impression on the public mind, let them grapple with the questions there proposed. For example, let them answer the following questions in substantive propositions, and prove the answers, viz.:—Is the world governed by natural laws, or is it not? If it is not, are physical and moral events still caused by special supernatural exertions of Divine power? If these have ceased, and no natural laws exist, is not this world necessarily a theatre of anarchy, and,

consequently, of atheism ? If, on the other hand, natural laws do exist, are they not of Divine institution and authority ? And if they possess this character, where is any intelligible and practical exposition of them, as guides to human conduct, challenging our reverence and obedience, to be found, emanating from "ministers and laymen connected with various denominations holding evangelical opinions ?" If no such expositions of them by these persons are published, is not the neglect of teaching them, true and practical infidelity to God's law written in the book of creation, on the part of these "ministers and laymen ?"

Farther : Are the practical precepts of Christianity regarding human conduct in this life in harmony with and supported by the order of God's providence in the natural world, or are they not ? If they are not, how *can* man conform his conduct to the order of nature *and* to these precepts ? If the precepts and God's order of providence in the natural world are in harmony,—as science proclaims,—why have these "ministers and laymen" failed to discover this fact ? and, if they have discovered it, why have they omitted to teach it ?

These are the questions which the "ministers and laymen" must fairly encounter and satisfactorily answer, before their lost strength will return to them ; and in giving them this advice, we are acting, we hope, as their sincere friends, and certainly as their wellwishers. If they had practised the "prudence and caution" of which they feel the need, they would have considered these questions maturely, before commencing their present crusade ; and perhaps saved themselves from the risk of a public exhibition of their own weakness, errors, and inconsistencies, while they are endeavouring to demonstrate those of their neighbours.

Chapter I. is entitled, "Mr Combe's hypothesis concerning the progressive development of elements of improvement in the physical and organic departments of the world considered ;" and the same subject is continued through the two subsequent chapters. The point at issue is, whether "the world contains within itself the elements of improvement ?" In the edition of 1835, Mr Combe had added to this sentence these words,—"*which time will evolve and bring to maturity.*" Some persons had supposed these last expressions (unwarrantably, we think, when the context was taken into account) to imply a denial of the government of the world by Divine wisdom and power. In consequence of this misunderstanding, the expressions were altered in the next edition, that of 1841, and the words used were, "The world, including both the physical and moral departments, is, in itself, well and

wisely constructed on the principle of a progressive system, and, therefore, capable of improvement." Mr Kennedy founds his arguments exclusively on the edition of 1835, and never mentions the existence of any alterations in that of 1841. We have no doubt that this was unintentional on his part; but as the rule among honourable controversialists is to cite the latest, as the most carefully considered edition of a work assailed, we, while acquitting him of intentional injustice, regret the oversight, for his own sake.

Chapter IV. is on the "Harmony between Geology and Scripture;" which we leave in Mr Kennedy's hands, having neither interest nor space to enter into any controversy with him on the subject.

Chapter V. treats of the question, "Does the history of mankind establish Mr Combe's theory regarding progressive development?" Mr Kennedy's opening sentence admits that "mankind are, on the whole, making advancement in knowledge and civilization." "This advancement, however," he adds, "is not owing to the mere development of inherent elements of improvement in human nature. For this advancement of mankind, we must assign a very different cause. That cause is Divine mercy. Our world, though fallen, is not forsaken. It is marred; but there are agencies working to effect its restoration to order, beauty, and blessedness. Apostate man is the object of redeeming love, and the subject of renewing grace." This is fighting with a shadow. The real question, is, Whether the world be now governed through special supernatural interferences of God's power, or according to natural laws? Mr Kennedy has not shewn the former to be the case, and until he do so, we are entitled to hold by the latter, as the hypothesis which is supported by science and daily experience. But if the order of God's providence be now characterized by the regularity of natural laws, "redeeming love" and "renewing grace" cannot be *antagonistic* influences to these laws. Mr Kennedy would have better served his cause if he had fairly grappled with the merits of the question, and developed a view of the natural laws adapted to these influences, instead of harping on the words which Mr Combe had altered six years before the "Defence" was published, and which are no longer to be found in the "prevalent" editions of his work.

Chapter VI. is entitled, "Was Man originally mortal?" Mr Kennedy concedes that "there may have been death among the lower animals prior to the time when man sinned." Mr Combe added, that if man is now the same being that he was when created, he must then, as now, have possessed organs of Amativeness, Philoprogenitiveness, Combativeness, De-

structiveness, Secretiveness, and Cautiousness, and that these seemed to him to indicate the adaptation of man to a world in which the old were to be removed by death, to make room for the young, and in which there was to be danger and difficulty, rendering the faculties before named useful and necessary. Mr Kennedy maintains that, notwithstanding these faculties, man may have been created sinless and immortal. The arguments by means of which he supports these propositions are,—first, that the old, like Enoch and Elijah, might have been "removed" to another sphere without dying; and, secondly, that Mr Combe has himself shewn that all the faculties have a legitimate sphere of action, and may, therefore, have been adapted to a world without death, danger, and sin. The question—Whether man was originally mortal—lies beyond the limits of science, and Mr Combe has not discussed it in "The Constitution of Man." He has only asserted that the human mind and body, as now constituted, are *de facto* adapted to the world in which we find them; that, apparently, the world was not changed in its constitution and arrangements at the time of man's appearance; and that it has not been substantially altered since. Our readers, therefore, will judge for themselves concerning man's condition prior to his entering upon his present state of existence.

Chapter VII. is on "Man's Fallen Condition." We leave this also to Mr Kennedy, as one belonging to theology.

Chapter VIII. considers "Mr Combe's Exposition and Application of the Natural Laws." In this chapter Mr Kennedy invents difficulties in order to combat them. By way of correcting Mr Combe, he says—

"But it is not true; 1st, That any mode of action of a physical object is otherwise inherent in it, than as it is the will of God that that object should now present that mode of action. Nor is it true; 2d, That it is beyond the power of God to vary when he pleases, either temporarily or permanently, the constitution of physical objects." This is trifling with the subject: Mr Combe has nowhere ascribed the inherent modes of action of any object, either physical or moral, to any cause except the will and power of God; and he has never maintained "that it is *beyond the power of God* to vary, when he pleases, either temporarily or permanently, the constitution" of these objects. The real practical question is, Does it *de facto* appear, from what we see passing around us, that *it does please God, now to vary*, either temporarily or permanently, the constitution and modes of action of physical or moral objects? Mr Combe affirms

that according to his observation of the *present* order of nature, it *does not please God* to vary these constitutions and modes of action; and Mr Kennedy, instead of shewing by clear and unequivocal facts, *now observable*, that God *does in our own day* please to vary these, enters into a general disquisition to prove that God *can* vary them, *if he pleases*, and that under the miraculous dispensations of the Old and New Testaments, he *did vary them*. But not one word of this argument applies to the case in hand. We ask Mr Kennedy, Were not the miraculous dispensations confined to the Jews and the Scripture times? Is the world *now* under the same special supernatural administration which is recorded to have characterized it *then*? Does not Mr Kennedy know that during the long reign of ignorance in the dark ages, the Roman Catholic priesthood pretended that a miraculous dispensation still continued, and that they were the appointed instruments for evoking special supernatural acts of Divine administration; and that one of the boasts of Protestantism has been the demonstration that these pretensions were presumptuous and fraudulent? With strange inconsistency, however, some Protestants have retained a portion of that superstition, and have not only taught it, but acted under its influence themselves. (See "*Relation between Religion and Science*," pages 2, 8, 9, 10, 11, 12.

Chapter IX. is on "The Efficacy of Prayer." The question here again at issue is, Whether we have evidence from observation and experience, that *in our day* God pleases to vary the constitution and modes of action which he has bestowed on physical and moral objects, in consequence of being requested to do so by men in prayer. Mr Kennedy quotes numerous instances from the Old Testament where this is recorded to have been done. "Take, for example," says he, "Elijah's prayer for rain. *That* prayer, in itself, could have no effect whatever on the atmosphere." On this point we beg to refer to the passage quoted from Archbishop Whately's address on the famine in Ireland, on pages 9 and 10 of "*Religion and Science*," which is strictly applicable to the present question; and to assure Mr Kennedy that if he will adduce a sufficient number of well authenticated instances of men in our day bringing rain or sunshine, or removing the potato blight, or staying fever, or accomplishing any similar physical result, by means of prayer, without bringing into operation, by natural means, the natural causes of these results, we shall abandon all belief in the natural laws, and renounce at once all the "prevalent errors" of Mr Combe's "Constitution of Man." But it is in vain to adduce examples

of supernatural power wielded or evoked by the personages of the Old and New Testaments, as evidence that the same gifts have descended to the men of our generation. If they have so descended, why do we accuse the Roman Catholic priesthood of fraud and hypocrisy in having pretended to enjoy them? The man who, by prayer, could, in our day, induce God to send rain, or stay a pestilence, by special acts of Divine administration, would really be able to work miracles; and if we do not seriously believe that this can be done, why should we mock God and deceive ourselves by pretending to believe that it can be accomplished?

Chapter X. is on "Changes in Moral and Religious Character." It is not necessary to discuss the topics involved in this chapter, because the question constantly occurs—Are the changes referred to effected through the instrumentality of God's providence operating by means of the natural constitution conferred by Him on moral beings? or are they effected by influences lying beyond these, and not acknowledging alliance with them? If such influences exist and contradict the natural order of God's providence, Mr Kennedy is called on to prove this: If he admits that they act in conformity with it, and supplement it, he allows all that Mr Combe has contended for, which is simply this—that until the natural conditions on which an event or result depends are brought into existence, we have no warrant from *our own experience* (whatever may have been the experience of the Jews in scripture times), to expect that that result will be accomplished.

Chapters XI. and XII. are "On Affliction as a means of Moral Discipline," and contain a strange mixture of truth and error. Mr Kennedy here arrives at the discovery that the natural laws are inconsistent. "The very same act," says he, "*is required* by one law, and forbidden by another law"—both laws being Divine. "We sometimes cannot obey both the organic and the moral laws." He adds, very truly, "Now this view of matters involves gross absurdity." It really does so; but on whose side does the absurdity lie? By the natural laws, of course, he means *God's* natural laws; and his proposition amounts to this—that God's creation is not systematic and self-consistent; that the natural consequences which God has attached to the actions of moral beings are *not always* adapted to serve as guides to their conduct; but that man may, in certain cases, shew forth a wisdom superior to that of God, and legitimately disregard them. Mr Kennedy teaches us, that man by following the dictates of his own wisdom, in opposition to that of God, may reach more excellent and beneficial ends than by following submis-

sively in the track of God's providence! This doctrine, be it observed, proceeds from an evangelical Society associated to oppose "prevalent errors." This, although a strong statement of Mr Kennedy's doctrine, is no misrepresentation or perversion of it: for he assumes that the law which he says may be legitimately and beneficially transgressed or disregarded is *God's law*; and the proposition which he is combating is Mr Combe's doctrine that the Divine laws, *in all cases, and without any exception*, are entitled to command the respect and obedience of God's rational creatures. But let him speak for himself.

After citing, and partially approving of Mr Combe's representation of the advantages of obeying the natural laws, he proceeds thus: "Now, it is *only* the moral laws that *imperatively* regulate our conduct. Obedience to the first two classes (the physical and organic laws), is only prudential, and often has nothing moral in it. Moral laws should be obeyed at all times, and in all circumstances. *Physical laws we may evade or disobey in multiplied instances, quite unblameably.* That we *may fully obey the moral laws*, we frequently *must*, to some extent, *disregard the physical laws.*" "Physical laws ought not to be confounded with laws of human conduct. These we always must obey; those *we may often*, without deserving blame, *boldly disregard.*" "The same remarks, to some extent, apply also to the organic laws. These we *may often, to a large extent, properly disregard.*" p. 132. Does not this plainly teach that creation is not systematic and self-consistent; that God has so framed the physical and organic worlds and the moral law, that there is often open contradiction between them; that the natural consequences which He has attached to infringements of the physical and organic laws are *not intended*, or at least, *not calculated*, in all cases, to instruct us and to serve as guides to our conduct? All this seems to be implied in the doctrine, that we may "often," "properly," "unblameably," and "boldly," "disregard" those laws.

The view insisted on by Mr Kennedy, that "it is only the moral laws that *imperatively* regulate our conduct;" and that "obedience to the physical and organic laws is *only prudential*, and often has *nothing moral* in it," is unsound in principle and highly injurious to human welfare. That it should be boldly proclaimed by an "association" "holding evangelical sentiments," appears to us to be explicable only by the suppositions that they do not comprehend what is implied in a law of nature; or that their own moral and religious sentiments have been so misdirected by education, that they recog-

nize no *sacredness* in the order of God's Providence embodied in, and manifested through, the instrumentality of these laws. In Mr Kennedy's case, ignorance cannot be imputed; for he appreciates, to a considerable extent, the Divine origin and practical importance of the laws; but at the same time, and apparently from his Veneration and Conscientiousness never having been trained to *reverence* them, and to feel a *moral and religious* duty in obeying them, he openly proclaims that there is often "nothing moral" in that obedience. If the intellect were correctly instructed in the order of God's Providence, as embodied in the physical and organic systems of the world, and if the moral and religious sentiments were trained from infancy to reverence that order and the lessons which it is ever addressing to man for the regulation of his conduct, these lessons would be *felt* to imply a moral and religious obligation. Many persons, for example, consider it a sin to enter into a matrimonial compact for life without the benediction of a clergyman, but consider it no sin, and only an imprudence, to form, under the sanction of that benediction, an alliance which, according to the organic laws, will entail misery on their offspring. Such conduct appears to us to be explicable only by supposing either that they ignorantly disbelieve in the consequences of their own act, or that they entertain a most irreverent contempt for God's authority as manifested in the organic laws. Let us see, however, by what evidence Mr Kennedy supports his extraordinary proposition.

He applies to the case of Grace Darling, "who," says he, "was rendered illustrious by nobly braving the surges of the tempestuous ocean, endangering her own life to rescue others from a watery grave. She scorned to be withheld from her generous exertions by the regard due to the well-known organic law, that a human body submerged beneath the waves, must soon be bereft of life." (P. 127.) This is a mistake. Grace Darling, by using a boat, which, by the physical law, floats on the surface of the water, preserved her own body out of the water; by obeying the physical law, she obeyed also the organic law, and thus saved herself and her fellow-creatures from drowning. Surely the Society's "prudence and caution," as well as their common sense, were asleep when they allowed Mr Kennedy to publish such an example as evidence of the *advantages of disobeying* a natural law.

He adds another instance in which Mr Holgrove rushed on a railway and rescued two poor women from destruction by an advancing train, but was himself struck down by the engine.

The argument founded on this case, has been already answered in Mr Combe's Pamphlet on "Religion and Science," pages 17 and 18. The argument itself affords an additional evidence of the thorough confusion which reigns in the minds of evangelical men on the subject of the natural laws, and the low estimate which they form of Divine wisdom manifested in the order of nature. It does not admit of doubt that Mr Holgrove suffered from an error in calculating the position in which his own body and the train would stand relatively to each other at the time when he made the effort. He reckoned on accomplishing his object, and on moving off the rail, before the train should come up ; in other words, he intended to *obey* the natural law, and not to set it at defiance. It is because we give him credit for this intention, and sympathize with his miscalculation (which in his place we likewise might have made), that we yield to him the tribute of our admiration. If we believed that he *meant* to surrender his own life to save the lives of the old women (which he must have done, if he *intended* to disobey the physical law under which the advancing train was moving), we could *not* approve of his conduct. *He* was not the proper judge of the relative values of the lives. If he had left a bereaved widow and destitute children, they would have viewed the *deliberate* sacrifice of his own life for those of the old women as uncalled for by the claims of duty. Again, if he had *intended* to throw away his own life, and merely availed himself of the opportunity of the old women being on the rail, to kill himself with *eclat*, our judgment of his act would be one of unequivocal condemnation.

Mr Kennedy speaks of "evading" the natural laws. The thing is impossible. *God* has connected the consequences with the antecedents ; and *man* cannot separate or evade them. If Mr Kennedy had said, that by obeying one law we may shelter ourselves from the injurious effects of another, we could have understood what he meant ; although, even in this case, there would have been an error in the form of expressing the fact. For example, when a man rises in a balloon, he does not triumph over the law of gravitation by setting it at defiance, but by acting in accordance with it. That law causes the heavier gases of the atmosphere to gravitate more forcibly than the light hydrogen gas in the balloon ; and the former, gravitating downwards, lift the balloon up. A physician who, before visiting a case of malignant and infectious fever, takes a good breakfast, whereby he produces in his own organism an internal resisting power calculated to ward off external influences, and who orders the door and

windows of the patient's chamber to be opened, and the room to be ventilated, before he enters it, and by these means escapes infection, does not triumph over the organic law by defying it at the call of duty, but finds his safety in obeying it. If he enters that same apartment feeble, fasting, and exhausted, and encounters its concentrated contaminated atmosphere, unmodified by ventilation, the supposed calls of moral duty will not protect him from the consequences. According to the ordinary course of God's providence, he will be infected himself, and he may die. We should be glad to know whether the clergymen and lay inspectors of the poor who have recently fallen victims to their duty in fever hospitals, have acted on Mr Kennedy's view of the order of God's providence, or on ours. We have a suspicion that they have gone into the fever wards in a state of mental and physical exhaustion, and neglected the means of diminishing by ventilation the noxious influence of the effluvia from the bodies of the patients. Be this as it may, the natural tendency of Mr Kennedy's doctrine, backed by all the influence of the evangelical Society, is to encourage men, at the supposed call of moral or religious duty, to set the organic laws at defiance; whereas our earnest exhortation to them is to obey them in *all* cases to the very utmost of their ability. We leave it to the reader to judge which party is here propounding "dangerous error and gross absurdity;" and whether a Society which forms such an humble estimate of the self-consistency and instructive character of God's natural providence, and such an exalted view of its own discrimination, is more likely to "oppose" or to propagate "prevalent errors."

Chapter XIV. is "On the Alleged Possibility of Deducing a System of Morality merely from the Natural Laws." We at once concede to Mr Kennedy, that if God's natural laws be, as he argues, so worthless that "we may often, *to a large extent, properly* disregard them," and "evade or disobey them in multiplied instances, *quite unblameably*," they cannot be the fountain of a "system of morality." If he should ever have his eyes opened to higher views of the Divine Wisdom embodied in the order of nature, perhaps he may differ less from Mr Combe on this subject than he does at present.

Chapter XV. is "On the use of Science as a guide to the Interpretation of Scripture." True science is merely a correct record of the order of God's providence revealed to the human mind in the constitution and modes of action of physical and moral beings; and while Mr Kennedy forms his present humble estimate of its character, he is not in a condition to judge of its use and importance as a guide to the interpretation of Scripture.

To conclude : we are not sorry that this Society has been formed. When Mr Kennedy, as its organ, acknowledges that the natural laws are God's laws, and yet proclaims, with its sanction, that we may often "unblameably" and "boldly" disregard them, it exposes itself to the imputation of proclaiming war against the sacred and inviolable character of God's providence embodied in the order of nature. While, however, we acquit its members of this intention, we cannot help repeating that such works as Mr Kennedy's betray an extraordinary confusion reigning in the minds of some religious men on the connection between religion and the order of God's secular providence, as disclosed by science. This confusion appears to be general among the Calvinistic sects ; for "The Free Church Magazine" has not hesitated to adopt Mr Kennedy's views, to recommend his work, and, in American phraseology, to *endorse* all his doctrines. The education of the people, and social progress generally, are seriously retarded by such errors prevailing in such influential quarters.

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tion were sound, the whole question would be settled; but I submit, that even if there were something like the universal consent of all mankind to the proposition, it might still be open to legitimate doubt; for the day was, when the same universal consent declared the earth and moon to be flat—the earth to be thousands of times larger than the sun—the globe to be stationary—and the sun, moon, and stars to revolve round it; every one of which propositions is nevertheless false, and is now abandoned by all who have enjoyed the benefit of a scientific education, to enable them to correct the first impressions of their unaided senses. Science may enable us to correct also the first impressions of our emotional faculties. The law of retaliation—an eye for an eye, and a tooth for a tooth—unquestionably received the “universal consent of all mankind” in their first stage of civilization. It was dictated by the natural impulse of revenge, along with rude notions of justice; but more profound and elevated views of the nature of man have induced us to abrogate this law. It appears to me, that the universal consent of mankind (supposing it to exist) in regard to the efficacy of death-punishment, is founded, like the law of retaliation, on certain instinctive emotions of the mind, which are universal because they are natural; but that it does not necessarily follow, that all the actions to which they prompt us are on that account either ethically sound or practically useful.

M. proceeds to say that “there is nothing which all men have so thoroughly in common as the boon of life, to which *all alike*, by the very condition of their nature and their animal instinct, *cling with equal tenacity*, from the richest to the poorest, and from the youngest to the oldest of mankind.” If this proposition, also, were well-founded, it would powerfully support the other two; but in fact it is an assumption that will not bear the scrutiny of reason. The real state of the case appears to me to be the following.

The love of life is *one among many* feelings which are inherent in the human mind. It is universal, because it forms an element in our being; but it is not equally strong in all individuals. There is reason to believe that there is a special organ for this feeling, which in different individuals differs in its size relatively to the other organs: But be this as it may, any one who will inquire among a pretty wide circle of persons for an account of their consciousness in this respect, will learn that in some the feeling is so strong as to amount almost to a passion, while in others it is moderate, and in others feeble.

Farther: the practical effect of this innate feeling is liable

to be strengthened by some, and to be weakened by other feelings, which co-exist with it in the mind. I state two examples, and number them for the sake of reference:—I. If the emotion of Fear, depending on the organ of Cautiousness, be naturally strong, and be combined in an individual with a powerful Love of Life, it will render death in the highest degree appalling to him. Such a man will be a natural coward. II. If, on the other hand, in another individual, the emotion of Fear be feeble, the instinctive quality of Courage, depending on Combaticiveness, be strong, and the Love of Life be moderate or feeble, this combination will cause death to appear to *him* as a much less formidable evil.

Again: There are still other instinctive emotions in the mind which, in different individuals, co-exist in different degrees of relative strength, and act along with those already enumerated: for instance, the love of sensual pleasure, depending on Alimentiveness and Amativeness; the love of gain, depending on Acquisitiveness; the love of distinction, depending on Love of Approbation; and so forth. Now, does not the universal experience of mankind prove that the fear of death has very different effects in restraining different men from the indulgence of these propensities? For example, the man possessing the combination No. I., will abstain from convivial indulgences, from horse-racing, from quarrelling, from visiting pestilential climates in quest of gain, and from many other gratifications to which he might be inclined, through fear of losing his health and his life; while the man with the combination No. II., will disregard every motive of prudence founded on the love of health and life, and will pursue the objects of his desire at every hazard. He will think it even mean and dastardly to be restrained by so contemptible a motive as the fear of death. Common observation so strongly corroborates the truth of these propositions, that I do not stop to offer detailed evidence in support of them. But if they are true, it follows that, in judging of the efficacy of the punishment of death as a means of deterring from crime, it is not sufficient to proceed on general assumptions founded on the supposed universal consent of mankind; we must go a little deeper, and inquire into the special combinations of faculties which characterise the criminal mind. A physician does not prescribe the same remedy for all patients on mere general principles. He tries to discover the specific condition of each, and varies his prescriptions according to it. The administrator of the criminal law must follow the same rule, and adapt his treatment to the mental condition of each offender.

When a reflecting medical practitioner reads a statistical report of deaths from disease in a great city, and perceives that those from consumption exhibit the same proportion to the population year after year, what conclusion does he draw ? It is—that in this population a certain number of individuals have lungs too weak to withstand the injurious influences of the climate and other noxious agencies which assail them. The reason why *all* do not die of consumption is, that *some*, the great majority, have lungs that *are capable* of withstanding these influences. Those who die of other diseases may have other vital organs weaker than their lungs ; but in them the lungs, at all events, have been sufficient to resist the hurtful circumstances to which they have been exposed. Now, when we find in the statistical reports of any nation, the same number of robberies, the same number of murders and other crimes, recurring year after year in the same number of people, as long as their circumstances continue the same, does not the conclusion follow that there are, out of the whole population, a certain number of individuals whose moral qualities are not sufficiently strong to resist the temptations to crime presented by their external circumstances ? In short, does not this shew that it is only a *class* of society which is predisposed to crime ? In no other way can we explain the *uniformity* of the numbers of criminals while the circumstances continue unchanged. It appears to me to be impossible for any reflecting individual to read the *Essai sur la Statistique Morale de la France*, by Mons. A. M. Guerry (Paris 1832), and M. Quetelet's work, *Sur l'Homme et les développements de ses Facultés* (Paris 1835), or the ordinary statistical reports of crime in this country, without arriving at this conclusion. M. Quetelet says :—" This possibility of *assigning beforehand* the number of the accused and condemned which should occur in a country, is calculated to lead to serious reflections, since it involves the fate of several thousands of human beings, who are impelled, as it were, by an irresistible necessity, to the bars of the tribunals, and towards the sentences of condemnation which there await them. These conclusions flow directly from the principle, already so often stated in this work, that effects are in proportion to their causes, and that the effects remain the same if the causes which have produced them do not vary."

If, then, mental predisposition be the primary cause of crime, the question presents itself—What is that peculiar combination of mental qualities which produces, in a certain proportion of the population, a proclivity to crime ? It is an undue natural preponderance of the animal propensities, and

an undue deficiency in the native power of the moral or the intellectual faculties, or of both. This fact has been demonstrated so thoroughly by evidence recorded in the Phrenological Journal and other works, that I do not stop to repeat the proof. I need scarcely add, that this combination does not *necessarily* produce crime as a specific result, but only implies strong impulses towards animal indulgences, accompanied by weak powers of restraint, in consequence of which the individual is unable to resist the temptations presented by unfavourable external circumstances.

Keeping in view, then, the causes of crime, we proceed to inquire into the relation in which *punishment* stands to them. If I am correct in saying that these causes consist in natural predisposition and the influence of unfavourable circumstances, it is obvious that *punishment does not tend directly to remove either*. The advocates of death-punishment will probably admit this proposition; but they may reply that they punish offenders with death in order to deter other persons from offending. This, however, is not a legitimate object of punishment; but, assuming it to be so, let us consider the relation which the infliction of death bears to the object in view.

Suppose two young men to have weak lungs, and both to be told that if they indulge in late and protracted convivial entertainments, and often pass from the heated atmosphere of a tavern into the chill air of a December night, they will certainly die; and suppose, farther, that in one of them the appetite for pleasure is moderate and the reflecting and prudential faculties are strong, while in the other this mental combination is exactly reversed—would the physician's threat of death have the same influence on both? Obviously not. The former would be deterred by it, while the latter would either disbelieve in it, or recklessly disregard it. These are not fanciful cases, but pictures of realities which may be verified by daily observation. The lesson which they teach is, that in these instances (other things being equal), the fear of death, as a restraining motive, operates in the *inverse ratio* of the force of the temptation.

This illustration is strictly applicable to the case of crime. In the criminal mind, the love of pleasure (which may take the form of sexual indulgence, of intoxication, of idleness, of ostentation, or of any other vice), must be *plus*, while the moral or intellectual powers, or both, must be *minus*, otherwise he could not become a criminal. The more intensely powerful the desire of immediate unlawful enjoyment is, and the feebler the moral and intellectual faculties

are in any individual, the more directly and vigorously will the temptation act on him, and the more feebly will the consideration of contingent evil, even in the form of death, be calculated to modify his conduct. The punishment threatened is necessarily distant and contingent :—But the fiercer the passion, the more thoroughly will it engross the whole mind with the desire of present gratification ; and the feebler the moral and reflecting powers, whose function is to consider duty and to contemplate consequences, the less capable will the individual be of realising the fear of death and applying it as a restraining motive.

If these views of the criminal mind are sound, it appears to follow, *1st*, that *death-punishment does not stand towards crime in the relation of a direct preventive* ; and, *2dly*, that as a means of deterring others, it operates in the inverse ratio of the danger to avert which it is applied—that is to say, that it will effectually deter all favourably-constituted men, or those who are naturally virtuous and prudent, and on whom temptation to crime acts feebly ; that it will cast the balance in favour of virtue in the case of certain individuals in whom the elements that give power to temptation and those which lead to resistance are pretty equally poised ; and that it will operate with least effect precisely on those on whom it is most needed to act powerfully, viz., on such as by nature and circumstances are most prone to fall before temptation.

These views are supported by the statistics of crime. A return to the House of Commons, dated 22d May 1846, shews the number of persons committed for each of seventeen different denominations of offences, including robbery, housebreaking, arson, forgery, rape, and so forth, which were capital in 1830, but for which the punishment of death has been abolished by statute, or for which it has not been inflicted during the last five years. The return includes two periods of five years each, the one before and the other after the last execution for each offence. The result is the following :—During the five years ending with the last year of an execution, there were committed, 7276 ; executed, 196 individuals. During the five years immediately following the last execution, there were committed for the same offences, 7120.

What effect can be ascribed to the fear of the punishment of death on the persons who committed these crimes. Although the population increased, the aggregate amount of commitments for the seventeen offences actually diminished after the punishment of death was abolished ; whence we might infer that the abrogation of that punishment had operated as a sedative on the criminal mind. But, again, looking at the small amount of the diminution (for the number of

the offences is very nearly the same in both periods), we might with some degree of plausibility conjecture that the punishment of death had, in these instances, been absolutely inoperative either for good or evil. Apparently, evil-disposed persons committed the same number of offences, whether they incurred the penalty of death or not. These returns, at all events, support the proposition that the punishment of death does not stand towards crime in the relation of a preventive; for fewer offences were committed after it was abolished than when it was enforced.

Do I mean, then, it may be asked, to propound an absolute impunity for crime as the result of this reasoning? Certainly not; and I proceed to mention the treatment which I propose. Before doing so, however, let me say, that the punishment of death appears to me to be *immoral* as well as unnecessary. Death with torture is now universally disused; and the punishment inflicted is simply the extinction of life ignominiously. Little importance attaches to the ignominy as a deterring influence; *1st*, because the mind that will brave death itself, will not be much influenced by the attendant circumstances; *2dly*, because, by destroying life, the consciousness of ignominy and of every other emotion, in this world, is extinguished; and, *3dly*, because the same amount of ignominy, if it were necessary, might easily be inflicted without the accompaniment of death. Simple death, therefore, remains as the staple of the punishment. Now, by the ordination of God, we are all under the sentence of death. The clergy admonish us to bear it habitually in mind, and to prepare for it; the warrior is praised for disregarding it; and the philosopher glories in resigning himself to it with cheerfulness and equanimity: and I ask, On what principle, consistently with these views, can its infliction be justified *as a punishment*—as the most terrible of calamities—as that which is to restrain the reckless, excited, daring villain, after he has become insensible to all other earthly motives? He may tell the jury which convicts him, and the judge who condemns him, that *they* also are under sentence of death, and that the brief space of time which will elapse between the execution of the sentence on him and them, is no very formidable consideration to his disadvantage. Such a remark would be justified by religion, supported by philosophy, and sympathised with by men of courage who were neither religious nor philosophical. How, then, I again ask, *can* we reconcile such heterogeneous modes of viewing the most important event of our mortal existence? If all who should not be put to death for crime were naturally immortal in this world, I could understand the consistency of

depriving a criminal of life, as the acme of human infliction ; but in our actual condition it appears to be not only barbarous but immoral and irreligious to do so. If we value moral consistency as of any importance in criminal legislation, we shall be led to abandon the notion that death is the most awful of punishments, and regard it simply as an institution of a great and merciful God, to be encountered with courage and constancy at the call of duty, to be prepared for by the aid of religion; and to be submitted to with calmness and resignation when it comes to us in the course of providence.

But what mode of treatment can society advantageously substitute for the punishment of death? An illustration again drawn from disease will serve to introduce the conclusion which appears to me to follow from the facts and considerations above mentioned. In the case of consumptive disease, we most successfully diminish the number of deaths, *1st*, by using means to strengthen the lungs, and thereby to render them more capable of resisting the rude vicissitudes of the climate; and, *2dly*, by removing as much as possible all noxious external influences. To accomplish the former object, we must improve the general health of the patient, beginning in infancy, and using diet, air, exercise, cleanliness, order, and temperance, as means of doing so. To attain the latter, we must drain, cleanse, and widen our streets, ventilate our houses, and so forth.

Let this illustration be applied to the case of crime. To remove, as far as possible, the first cause of crime—namely, the excessive tendency to idleness and animal indulgence—moral training, combined with religious and intellectual instruction, should be supplied, and habits of industry be formed. These are the natural means for strengthening the higher and mitigating the vigour of the lower tendencies of the mind. To diminish the second cause of crime—namely, unfavourable external circumstances—we must improve the social condition of our people by withdrawing from them the temptations to crime, presented on the one hand by the abuse of intoxicating liquors, and, on the other, by the pressure of actual starvation and physical destitution. While we allow these two causes to flourish in unabated vigour, we may inflict whatever punishments we please, and the sum-total of crime will not be lessened. On the other hand, in proportion as we diminish their influence, crime will decrease. Parliamentary returns shew a diminution of offences as the constant accompaniment of increased physical prosperity among the people.

The infliction of pain and suffering, therefore, as *punishment*, with a view to the protection of society, may, in my

opinion, be safely abandoned. But this is quite different from proclaiming *impunity* to crime. Society is clearly entitled to defend itself against the criminal acts of its evil-disposed members, and also to *use the best means* of defence. But the best means of defence are those which go most directly to the root of the evil. Let us at once deprive the offender of the power of repeating his criminal acts; let us withdraw him from all excitements to new transgressions; and let us train him to industry, morality, and religion. The application of these means, in the form of imprisonment, attended with rigid discipline, and protracted for a longer or shorter period according to the inveteracy of the evil habit which we seek to subdue, will prove at once *the most efficacious punishment* for crime, and *the best defence* of society, which can be attained, *until society shall amend its own institutions.*

To this doctrine it is often objected, that by such treatment we shall render criminals more comfortable than the destitute but virtuous poor, who are left to struggle with the last degrees of physical destitution and mental depression, unaided by the hand of beneficence, and uncheered by the voice of hope. In reply I beg to remark, that the possession of the dispositions which enable the poor in such circumstances to abstain from crime, places them far above envying the criminal, although he were lodged in a palace and fed as a prince. The deprivation of liberty and the stamp of disgrace which degrade the criminal, are felt by well-constituted minds as evils more poignant than the bitterest pangs of hunger and cold; and it is from this cause that the virtuous poor are not seduced by the apparent comfort of the criminal in prison. He *does not appear* to them to be in a happy and enviable condition. It is an erroneous idea entertained by the rich that the poor view him in this light. If the mental conformation of any class be so low that they feel no regard for their own character, and set no value upon their liberty, they will, by that very moral constitution, be prone to become criminals, irrespective of the supposed seductive pleasures of a jail. If their minds be well constituted, they will abhor a prison, *because it is a prison*; just as a poor but virtuous woman loathes a brothel, although its inmates may appear to her to be wallowing in luxury and wealth.

But there is another answer to the objection. If the rich, against whom, chiefly, criminal acts are directed, neglect their own duty towards the poor, and leave them to grow up in ignorance, destitution, and vice, until, by becoming desperate and reckless, they commit serious crimes—they have no right, under the plea of self-defence, to degrade the offenders still farther by rendering prisons more horrible than the loathsome homes from which the criminal poor generally emerge. This

would be to add cruelty to injustice ; to perpetrate an unwarranted and useless severity on the poor, under the colour of protecting themselves from an evil which is the direct consequence of their own misconduct.

Public opinion has now recognised the expediency of abolishing the punishment of death for all offences except murder ; and I proceed to consider if there be really any necessity for retaining it as a means of protecting society against the perpetration of this crime.

Murder may be resorted to as a means of preventing the detection of another crime ; of accomplishing some other offence, such as robbing a dwelling-house ; or of gratifying a bloodthirsty, rancorous disposition.

Experience shews that a large class of offenders systematically prefer cunning and stratagem to violence, as their means of depredation. They pick pockets by feats of dexterity, without the consciousness of the person robbed ; they enter dwelling-houses under cloud of night, or in the absence of the inmates, and plunder them in silence and by stealth ; or they devise and execute plans of fraud and deception for the purpose of robbing tradesmen of their goods, under the guise of dealing with them as customers. All such practices indicate in the perpetrators a mind in which, along with a certain degree of daring, there is a large share of caution, consideration, and ingenuity. Their grand defect is a want of an adequate controlling moral power to give to these qualities a virtuous direction. The organs of Cautiousness, Secretiveness, and knowing Intellect, are fairly developed, those of the moral sentiments are deficient, while those of the propensities are large.

Another class are so destitute of ingenuity, cunning, and self-command, or so much swayed by the coarser and fiercer passions, that they are incapable of using stratagem, but resort to direct violence as their means of committing crime. In them Combativeness and Destructiveness are *plus*, and Cautiousness, Intellect, and the moral organs *minus*.

The distinction between these two classes is so well marked, that no reflecting person can avoid ascribing it to differences in the natural dispositions and intellectual faculties of the criminals.

As it is almost exclusively the latter class which commits murder, whether as a means of perpetrating other offences, of destroying evidence, or of gratifying the passion of revenge, let us inquire into the effect of the prospect of death as a punishment, on this section of malefactors. The very fact of their preferring blood and murder to stratagem

and dexterity as their means of crime, proclaims their deficiency in ingenuity, in self-command, and in all the softer feelings; while it indicates a predominance of the coarser and more brutal elements of our nature. Owing to this combination of faculties, the penalty of death, when presented as a remote contingency, finds no quality in such individuals on which it can make a deep impression. If they possessed sufficient power of reflection to realise its high probability and its terrors, they would, in order to avoid it, employ stratagem as their means of crime, in preference to violence; if they had an adequate sensibility either to social opinion or to humane emotions, they would recoil from blood; if they were timid, they would fear resistance or detection. In short, in order to *be* a murderer, a man must, as a general rule, possess the *minimum* of the faculties which confer foresight, prudence, and a just regard to self-interest, and the *maximum* of the brutal propensities which rush headlong to violence, regardless of results. Phrenology enables us to *prove* that this combination actually characterises murderers as a class. On such minds, then, the prospect of death, as a contingency, does not, and cannot, operate as a powerful restraining motive.

Farther: those propensities from which murder (as an abuse) springs, are directly stimulated, instead of being restrained, by witnessing acts of severity and violence, and especially acts of killing. The tiger in his cage rages at the sight of blood; and the bloodthirsty man becomes excited by executions. Even the average soldier, who recoils at the first aspect of carnage, becomes, when familiarised with death, indifferent to its terrors and reckless of his own life. The murders of the French Revolution produced a striking regardlessness of life in the people. One of them, when under trial for murder, addressed the judge in the following words:—"Certainly, sir, I killed the man: kill me; but do not fatigue me with so much talking." This is not theoretical reasoning, but the statement of results resting on facts. Captain Maconochie, after four years' experience of the effects of the severest criminal treatment at Norfolk Island, declares that it fostered "a tendency to reckless daring;" a quality which, "more or less, characterises all prisoners, and without which they would probably have been scared by the first threatenings of the law, and would have escaped its toils." His concluding remark goes directly to the point of the present discussion; it is in these words:—"As a feature in the criminal character, this daring is not, I think, sufficiently adverted to by those who advocate the attempt to deter from crime by

severe punishments. *Tempers under its influence feel themselves only challenged, both in their own eyes and in those of their companions, by the recurrence of these.*" However strange it may appear to those unacquainted with the subject, yet "*crime thrives on severe examples,*" and "most certainly in direct competition with them."

If, then, the infliction of death be advocated as the *severest*, and therefore the most efficacious, punishment for murder, this testimony tends to prove, that, so far from repressing the inclination to the crime, it only challenges to its commission, or excites the minds of those who are predisposed to it to greater acts of violence. In short, the whole records of crime and punishment, if read with a due knowledge of the peculiar constitution of the criminal mind, indicate that the direct effect of witnessing acts of killing, as an example, is to stimulate the desire to kill in those in whom the propensity is naturally strong; and that hence executions operate as the natural fuel of murders.

Those who disapprove of death-punishment maintain that its advocates, to be consistent, should proceed to the use of torture as an accompaniment of death, to render it more terrible; and this consequence seems to me inevitably to follow from their own principles. Their object is to restrain by the terror of the severest punishment; and as experience proves that simple death does not restrain, why not render the punishment more severe, and therefore more terrible, by adding torture to death? According to them it is the *severity* which gives the punishment its influence; why, then, not increase the dose in proportion to the malignity of the disease? M. answers, that "if the fear of *death* will not deter, it may be doubted whether any pains incidental to death would operate generally to deter." But does not this doubt imply a suspicion, that the mind disposed to murder is so constituted as not to be capable of weighing accurately degrees of distant evil? Death by torture is, to a reflecting mind, a thousand times more terrible than simple death; and if the offender be insensible to it, on what ground can we rely on his sensibility to the terrors of simple death?

But M. assigns another reason for avoiding torture. No penal law, says he, can operate beneficially, if public sentiment revolts against it; and public sentiment does revolt against torturing criminals. The premises and conclusion here are both admitted to be sound; but public sentiment is bound to be consistent with itself. The same process of reasoning which has led it to abolish torture will, if legitimately

pursued, lead it to abandon death also as a punishment. The real cause why society revolts at torture is, that extreme suffering, when intentionally inflicted, lacerates and pains all the higher feelings of good men, and, by exciting their sympathy for the tortured wretch, blinds them to the malignity of his crime. There is, however, a counterpart to this result, which is too little known and considered; viz., that the sight of torture interests, gratifies, and excites cruel and ferocious minds, and supplies them with a decided impulse to deeds of cruelty and blood. I object to torture, therefore, on the ground that, so far from restraining, it stimulates destructive men to murder; and as an ignominious death is only a minor degree of the same species of infliction, it stands condemned by its tendency to produce the same effect.

If there be truth in the principles now stated, it follows that we shall most effectually temper and assuage the violent and bloodthirsty elements in the minds of the evil-disposed members of society, by cultivating the greatest tenderness for life as a general public sentiment. By this means, when any individual should feel a propensity to injure or to kill rising in his mind, he would find in all around him a calm abhorrence of the act, instead of that wild wonder and excitement which now accompany the announcement of such deeds, and which operate as a direct stimulant to his desires. The prospect of secluded confinement for life would *certainly not excite* his destructive propensity, but would tend, in some degree, to mitigate it. By such means would society be best protected.*

The last remark which I offer is, that the destructive propensity is liable to become morbid, and to induce acts of killing as pure symptoms of insanity—which, nevertheless, are often mistaken by society for crime, and punished by the penalty of death. Not only the poor and the profligate, but likewise educated, prosperous, and virtuous individuals, in the full enjoyment of the external goods of life, are occasionally tormented by unaccountable desires to commit suicide. When the mind is under this diseased excitement, a straw may turn the balance whether the sufferer shall kill another or himself. The following case, reported by Dr Samuel B. Woodward, lately superintendent of the State Lunatic Hospital at Worcester, Massachusetts, in the *American Journal of Insanity*, No. IV., is highly instructive on this subject:—

* Those who desire to see evidence of the tendency of executions to excite the destructive propensity, may consult Mr Sampson's work on "Criminal Jurisprudence considered in relation to Mental Organization."

On the 8th January 1845, I was consulted by G. E., twenty-five years of age, in apparent good health, of good personal appearance, good habits, manners, and character.

Before he called on me himself, his father stated to me, that he had for a few days been unhappy, from an apprehension that he should injure some of the family; that this impression preyed upon his mind, depressed his spirits, and rendered him unfit for labour. I did not learn from the father that he was apprehensive of any danger from this condition of the son, or that he was informed of the extent of the evil that preyed upon his mind; he only requested my advice for him as a physician.

The young man soon called, and in a private interview gave me the following history of his own case.

He was quite well and cheerful till September 1843, when he lost a brother to whom he was attached, which made him sober and pensive, but this was not followed immediately by any peculiar feelings.

In the course of the winter he became affected with an extraordinary desire to *kill*. Frequently in the course of the day, this feeling was excited by the presence of his own family friends, to such a degree as to make him shudder at their danger, and his own strange and unnatural propensity. He had no antipathy toward any of them; on the contrary, he had all the affection of a son and a brother. Although this desire to kill haunted him perpetually for some weeks, he cautiously concealed it from his friends, and that so successfully, that they had no mistrust of his feelings, or apprehension of danger.

As the warm weather approached, and he began to labour out of doors, the propensity gradually subsided, and left him entirely before summer.

Early in the winter of 1844-5, the young man formed a partnership with a brother-in-law, to carry on the shoe-business in a neighbouring town, and they commenced operations about two weeks before he consulted me on the 8th of January.

Almost immediately after commencing this labour in the shop, with his brother, this impulse was re-excited, and he felt an irresistible desire to KILL HIM. So strongly was this feeling excited many times a-day, that he felt compelled to leave his work, and quit the room frequently, believing, as he now does, that he should have killed him, if he had not thus abruptly torn himself away.

After struggling many days with this dreadful propensity, he left his work without giving notice to his brother, and returned to his father's house, where he now remains the victim of the same wretched feelings, and he insists that he shall kill somebody, if not speedily cured. I prescribed some remedies, and a course of diet and regimen for him, and recommended him to call on me again, if he did not soon get better. Not having heard from him since, I hope that the dreadful impulse has again passed from his mind.

Had this individual (remarks Dr Woodward) committed homicide in the winter of 1843-4, there would have been no evidence whatever that he was not of *sound mind*; both rational and responsible. He was indeed slightly depressed, but he had recently lost a dear and affectionate brother, who had been his companion and playfellow from infancy upwards. No one suspected that a dreadful impulse was at that time urging him to destroy his best friends, and that, with all his might, he was struggling to overcome it. Even the more recent escape from still greater danger—danger which it is fearful to contemplate—seems almost miraculous; as no evidence had yet been afforded of the influences which were urging him to take the life of one of his best friends, his own relative, and daily associate, till he disclosed the fact to me, so fully and unreservedly.

ON THE

RELATION

BETWEEN

RELIGION AND SCIENCE.

BY

GEORGE COMBE.

THIRD EDITION, CORRECTED.

"If there be a Religion of Nature, and we believe there is, we conclude that there can be no religion but truth, and no heresy but falsehood."—*Edinburgh Review*, vol. lxxxii., p. 56.

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PREFACE.

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The following Pamphlet is intended as a Sequel to "Remarks on National Education" by George Combe.\*

Two questions are considered in the following pages—What is the state of practical religion in this country? and What is the remedy for its present condition? In regard to the first point, I beg to adduce the testimony of the North British Review for February 1847. In an article in that Number, generally ascribed to the Rev. Dr Chalmers, and bearing all the characteristics of his style, it is said that "As things stand at present, our creeds and confessions have become effete, and the Bible a dead letter; and that orthodoxy which was at one time the glory, by withering into the inert and lifeless, is now the shame and reproach of all our churches." (vol. vi., p. 326.) Again, "There must be a most deplorable want amongst us of "the light shining before men," when, instead of glorifying our cause, they (men like Thomas Carlyle) can speak, and with a truth the most humiliating, of our inert and unproductive orthodoxy."—P. 328.

This representation is even stronger than that which I have ventured to give of the same subject in the following pages; and it is some advantage to start with so distinct a recognition, and from so high an authority, of the "great fact," that the present state of practical religion in this country is not satisfactory. The remedy suggested in the Review is widely different from that which is here advocated; but the public are the legitimate judges of the merits of the several proposals.

EDINBURGH, 1st May 1847.

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ON THE  
RELATION BETWEEN RELIGION AND SCIENCE.

BY  
GEORGE COMBE.

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The Reformation in the sixteenth century produced a powerful effect on the European mind. The miracles, precepts, and sublime devotional effusions of the Old and New Testaments, excited, with deep intensity, the religious sentiments of the people, introduced ardent discussions on temporal and eternal interests, and, unfortunately, led to furious and desolating wars. Freedom on earth, and salvation in heaven or perdition in hell, were the mighty topics which then engaged public attention.

In the beginning of the seventeenth century, a generation born and educated under these exciting influences, appeared upon the stage. The Reformation was then consummated, but the duty remained of acting it out in deeds. The new generation had read in the Books of the Old Testament of a people whose king was God ; whose national councils were guided by omniscience, and whose enterprizes, whether in peace or war, were aided and accomplished by omnipotence employing means altogether apart from the ordinary course of nature. The New Testament presented records of a continued exercise of similar supernatural powers ; and the great lesson taught in both seemed, to that generation, to be, that the power of God was exercised as a shield to protect, and an irresistible influence to lead to success and victory in secular affairs, *those who believed and worshipped aright*, who embraced cordially the doctrines revealed in the sacred volumes, who abjured all self-righteousness and self-reliance, and who threw themselves in perfect confidence and humility on Him as their King, protector, and avenger.

In the first half of the seventeenth century, the active members of society in England and Scotland, embraced these



views as principles not only of faith but of practice. With that profound earnestness of purpose which is inspired by great ideas, they desired to realize in deeds what they believed in their minds. As remarked by Thomas Carlyle, that generation "attempted to bring the Divine law of the Bible into actual practice in men's affairs on the earth." In the contests between Cromwell and the Covenanters, we observe both parties claiming to be "the people of God;" both asserting that they were directed by Divine influence, and supported by Divine power, even when in hostile collision with each other. It is necessary only to read attentively Cromwell's letters and speeches, and the contemporary narratives of the Covenanters, to be satisfied of this fact. Each party ascribed its successes to the Divine approval of its conduct and belief, and its calamities to displeasure with its unbelief or other sins. When Cromwell overthrew the Scotch, and "had the execution of them," in other words, the slaughter of them, for many miles in the pursuit, he called it "a sweet mercy," vouchsafed to him by God, to whom he devoutly ascribed the glory. After mentioning his victory at Dunbar, the trophies of which were about "three thousand Scotch slain," "near ten thousand prisoners," "the whole baggage and train taken," with "all their artillery, great and small," he adds, "It is easy to say, The Lord hath done this. It would do you good to see and hear our poor foot to go up and down making their boast of God."\*

The Covenanters held the same belief; but, somewhat inconsistently, while they confessed that their own religious unworthiness had brought upon them the Divine displeasure, they denied to Cromwell the right to interpret the victory as a manifestation of the Divine approval of *his* faith, principles, and practice:—They endeavoured to represent it as merely "an event;" for which Cromwell rebukes them in the following words:—"You (the men of the Covenant) say that you have not so learned Christ 'as to hang the equity of your cause upon events.' We (for our part) could wish that blindness had not been cast upon your eyes to all those marvellous dispensations which God hath lately wrought in England. But did you not solemnly appeal (to God) and pray? Did not we do so too? And ought not you and we to think, with fear and trembling, of the hand of the Great God in this mighty and strange appearance of His; instead of slightly calling it an 'event.' Were not both your and our

\* Letter XCH., Cromwell to Lenthall, dated, "Dunbar, 4th September 1650." (Carlyle's Cromwell, vol. ii., p. 41.)

expectations renewed from time to time whilst we waited upon God, to see which way He would manifest himself upon our appeals? And shall we, after all these our prayers, fastings, tears, expectations, and solemn appeals, call these bare 'events?' The Lord pity you."\*

While the people of that age entertained these views of the manner of God's agency in secular affairs, they were equally convinced of the supernatural agency of the devil, and with similar earnestness acted on this conviction. They ascribed to satanic influence on their minds their sins of unbelief, and carried their horror of it into practical effect by burning thousands of human beings as witches, for supposed compacts with the fiend. This belief lingered among the Scotch people a century later. In February 1743 the "Associate Presbytery" of the Secession Church passed an "Act for renewing the National Covenant;" and among other national sins which they confessed and vowed to renounce is mentioned, "The Repeal of the Penal Statutes against Witchcraft, contrary to the express laws of God, and for which a holy God may be provoked, in a way of righteous judgment, to leave those who are already ensnared to be hardened more and more, and to permit Satan to tempt and seduce others to the same wicked and dangerous snare."

These were the views of God's providence entertained by the religious men of the seventeenth century. Those who were not penetrated by a deep sentiment of religion acted then, as the same class does now, on the views of the order of nature with which their own experience and observation, aided by those of others, had supplied them. They did not trouble themselves by much inquiry whether this order was systematic or incidental, moral, or irrespective of morality; but acted as their views of expediency dictated at the moment. It is with the opinions of the religious and earnest men of that century that we are now principally engaged.

In commenting on that period, Thomas Carlyle observes, in his own quaint style, that "the nobility and gentry of England were then a very strange body of men. The English squire of the seventeenth century clearly appears to have believed in God, not as a figure of speech, but as a very fact, very awful to the heart of the English squire." He adds, "We have wandered far away from the ideas which guided us in that century, and, indeed, which had guided us in all preceding centuries; but of which that century was the ulti-

\* Letter XCVII., Cromwell to "The Governor of Edinburgh Castle," dated "Edinburgh, 12th September 1650." *Lib. cit.*, vol. ii., p. 65.

mate manifestation. We have wandered very far, and must endeavour to return and connect ourselves therewith again."\*

I ask, How shall we return? This is a grave question, and the answer demands a serious consideration.

The grand characteristic of the Jewish dispensation, on which chiefly these views of the Divine government of the world were founded, was, that it was special and supernatural. In the seventeenth century the people possessed very little correct scientific knowledge of the elements, agencies, and laws of inorganic and organic nature. The Scriptures constituted almost the sole storehouse of deep reflection and profound emotion for the men of that age; and in the absence of scientific knowledge, they fell naturally into the belief that, as the Scriptures were given for guides to human conduct, the same scheme of Providence, physical and moral, which had prevailed in ancient times, must still continue in force. Their conviction on this point appears to have been profound and sincere, and they attempted to act it out in deeds.

But was there no error of apprehension here? Were they not mistaken in believing that the course of providence was the same in their day as it had been among the Jews in the times of the Scripture records? A brief consideration of their actions, and the results of them, will perhaps throw light on this topic.

They assumed that the supernatural agencies which had been manifested under the Jewish dispensation might still be evoked, and would, in some form or other, be exerted for their guidance and support, if they called for them in a proper spirit. Hence, instead of studying and conforming to the laws of nature, they resorted to fastings, humiliations, and prayers, as practical means not only of gaining battles and establishing political power, but of obtaining direction in all the serious affairs of life. Their *theology* and their science, so far as they had any science, were in harmony. They did not recognise an established and regular order of nature as a guide to human conduct, but regarded every element of physical nature, and every faculty of the human mind, as under the administration of a special and supernatural providence. They viewed God as specially bending all processes of physical nature and powers of thought to the direct fulfilment of His will; *and on that will they believed they could operate by religious faith and observances.* In principle, their view of the nature of the divine administration of the

\* *Lib. cit.*, vol. i., pp. 3 and 87.

world was similar to that entertained by the Greeks and Romans. Homer's priests and heroes offered supplications to the gods for direct interference in favour of their schemes, and their prayers are represented to have been occasionally granted. Cromwell, and the men of his age, with more true and exalted conceptions of God, believed in His still administering the affairs of men, not by means of a regular order of causes and effects, but by direct exercises of special power.

I should say that in this condition of mind they were inspired by pure and exalted religious emotions, but misled by great errors in theology. There is a wide difference between religion and theology. Religion consists in the devotional emotions which spring up in the mind, on contemplating an object which we have been trained to reverence. "Theology," on the other hand, is used to designate the intellectual notions which we form concerning that object. Hence the untutored Indian, the Mahomedan, and the Hindoo, when they sincerely venerate and worship the objects which they have been taught to regard as divine, are *religious*; although their "theology" may be altogether erroneous. In like manner, the English Independents and Scotch Presbyterians of the first half of the seventeenth century, were earnestly and profoundly *religious*, although their theological ideas may appear to later generations to have been at variance with nature and truth.

It was, however, under the influence of such views of the course of providence as they entertained, that the existing standards of the Church of England, and of the Presbyterian Church of Scotland, were framed; and hence perhaps arose the very meagre recognition of God's providence in the course of nature, as a practical system of instruction for the guidance of human conduct, which characterises them.

After that age, however, the human understanding, by a profounder and more exact study of nature, obtained a different view of the course of providence in the administration of temporal affairs. Science revealed a system in which every object, animate and inanimate, appears to be endowed with peculiar qualities and agencies, which it preserves and exerts with undeviating regularity, as long as its circumstances continue unchanged; and in which each object is adapted, with exquisite wisdom and benevolence, to the others, and all to man. In the words of the Rev. Mr Sedgwick, science unfolded a fixed order of creation, so clear and intelligible that "we are justified in saying that, in the moral as in the physical world, God seems to govern by general laws."—"I am not now," says he, "contending for the doc-

trine of moral necessity ; but I do affirm, that the moral government of God is by general laws, and *that it is our bounden duty to study those laws, and, as far as we can, to turn them to account.*"\*

Here, then, an important revolution has been effected in the views of profound thinkers, in regard to the mode in which Providence administers this world. Science has banished from their minds belief in the exercise, by the Deity, in our day, of special acts of supernatural power as a means of influencing human affairs, and it has presented a systematic order of nature, which man may study, comprehend, and follow, as a guide to his practical conduct. In point of fact, the new faith has already partially taken the place of the old. In every thing physical, men now act more on the belief that this world's administration is conducted on the principle of an established order of nature, in which objects and agencies are presented to man for his study, are to some extent placed under the control of his will, and are wisely calculated to promote his instruction and enjoyment. Some individuals adopt the same view in regard even to moral affairs. The creed of the modern man of science is well expressed by Mr Sedgwick in the following words:—"If there be a superintending Providence, and if His will be manifested by general laws, operating both on the physical and moral world, *then must a violation of these laws be a violation of His will, and be pregnant with inevitable misery.* Nothing can, in the end, be expedient for man, *except it be subordinate to those laws the Author of Nature has thought fit to impress on his moral and physical creation.*" Other clergymen also embrace the same view. The Rev. Thomas Guthrie, in his late admirable pamphlet, "A Plea for Ragged Schools," observes, that, "They commit a grave mistake, who forget that injury as inevitably results from flying in the face of a moral or mental, as of a physical law."

Notwithstanding, however, this parial revolution in practical belief, the theology of the British nation has been permitted to retain the forms in which it was moulded in the olden time ; and what has been the consequence ? The natural order of providence is very meagrely taught by the masters in theology to their followers, as of divine authority, and as regulating this world's affairs. I put the following questions in all earnestness. Are the fertility of the soil, the health of the body, the prosperity of individuals and of nations,—in

\* A Discourse on the Studies of the University (of Cambridge). By Adam Sedgwick, M.A., &c., 3d Edition.

short, the great secular interests of mankind,—now governed by special acts of supernatural power? Science answers that they are not. Are they, then, governed by any regular and comprehensible natural laws? If they are not, then is this world a theatre of anarchy, and consequently of atheism,—it is a world without the practical manifestation of a God. If, on the other hand, such laws exist, as science proclaims, they must be of divine institution, and worthy of all reverence; and I ask, In the standards of what church, from the pulpits of what sect, and in the schools of what denomination of Christians, are these laws taught to either the young or old as of divine authority, and as practical guides for conduct in this world's affairs? If we do not now live under a special supernatural government of the world, but under a government by natural laws; and if these laws are not studied, honoured, and obeyed, as God's laws, are we not actually a nation without a religion in harmony with the true order of Providence; and, therefore, without a religion adapted to practical purposes?

The answer will probably be made—that this argument is rank infidelity; but, with all deference, I reply that the denial of a regular, intelligible, wisely adapted, and divinely appointed order of nature, as a guide to human conduct in this world, is downright atheism; while the acknowledgment of the existence of such an order, accompanied by the nearly universal neglect of teaching and obeying its requirements, is true, practical, baneful infidelity, disrespectful to God, and injurious to the best interests of man. Let those, therefore, who judge us, take care that they be not judged; and let those who think that they stand, take heed lest they fall. The public mind is opening to such views as I am now unfolding; and they must in future be met by other arguments than cries of irreligion, and appeals to bigotry and passion.

The churches which have at all recognised the order of nature, have attached to it a lower character than truly belongs to it. They have treated science and secular knowledge chiefly as objects of curiosity and sources of gain; and have given to actions intelligently founded on them, the character of prudence. So humble has been their estimate of the importance of science, that they have not systematically called in the influence of the religious sentiments to hallow, elevate, and enforce the teachings of nature. In most of their schools the elucidation of the relations of science to human conduct is omitted altogether, and catechisms of human invention usurp its place.

Society, meantime, including the Calvinistic world itself, proceeds in its secular enterprises on the basis of natural science, so far as it has been able to discover it. If practical men send a ship to sea, they endeavour to render it staunch and strong, and to place in it an expert crew and an able commander, as conditions of safety, dictated by their conviction of the order of nature in flood and storm. If they are sick, they resort to a physician to restore them to health, according to the ordinary laws of organization. If they suffer famine from wet seasons, they drain their lands; and so forth. All these practices and observances are taught and enforced by men of science and the secular press, as measures of practical prudence; but few churches recognise the order of nature on which they are founded, as a becoming subject of religious instruction.

On the contrary, religious professors have too often made war upon science, on scientific teachers, and on the order of nature, from the days of Galileo to the present time; and many of them still adhere, as far as the reason and light of the public mind will permit them, to their old doctrine of an inherent disorder reigning in the natural world. That disorder does prevail is undeniable; but science proclaims that it is to a great extent owing to man's ignorance of his own nature, and of that of the external world, and to his neglect of their relations. Many theologians do not recognise such views, but proceed as if human affairs were, somehow or other, still, in our day, influenced by special manifestations of Divine power. Mr Plumptre is reported, in the *Times*, to have lately said, in his place in Parliament, while discussing the existing famine in Ireland through the failure of the potato crop, that "He did not mean to enter at large into the question where the guilt, which had drawn down upon them this tremendous dispensation, lay—whether that guilt lay with the people or the rulers; but he could not help expressing what he considered to be a well-founded opinion, that the rulers of this country had deeply offended, by some acts which they had recently placed on the statute-book, and which, in his belief, were calculated to bring down the Divine displeasure on the land; but into this he would not enter."

It is conjectured that this Honourable Gentleman had in view the grant to the Roman Catholic College of Maynooth, or the repeal of the corn-laws, as the "act" "which, in his opinion, was calculated to bring down the Divine displeasure on the land." Be the acts what they may, the speech implied that, in his opinion, sin in the people, or in their rulers,

had led to a special deflection of physical nature from the ordinary course, in order to produce a famine for the punishment of the offenders. In the olden time, eclipses were viewed as portentous announcements of Heaven's wrath against the sins of men; but the discovery of unswerving physical laws, by which the motions of the heavenly bodies are regulated, and in virtue of which eclipses occur, has expunged that superstition from the civilized mind. Nevertheless, the same blind love of the wonderful and mysterious, which led our ancestors to quail before a natural and normal obscuration of the sun, leads the unenlightened mind in our day to seek for the causes of agricultural blights in sin, instead of in physical conditions presented to our understandings, as problems to be solved by our own industry and ingenuity, and to be then turned to account in avoiding future evils. On the other hand, many educated laymen, and also a number of the more enlightened among the clergy, whose scientific studies have produced in their minds a conviction of the steadfastness of the course of physical nature, have sought for the cause of the failure of the potato crop in some physical condition (unconnected with sin) of the plant itself, of the earth, the air, or the electrical fluids; which, if discovered, might in their opinion, enable husbandmen in future years to avert the calamity: and they have declined to recognise fasts, humiliations, and prayers, as means adapted, according to their views of the course of Providence, to avert the recurrence of the evil. Indeed, these observances, inasmuch as they mislead the public mind, with respect to its causes, are regarded by such persons as positive evils.

The Archbishop of Dublin, in his "Address to the Clergy and other Members of the Established Church, on the use and abuse of the present occasion," (the famine in Ireland in 1846-47,) says—

"But advantage has been taken of the existing calamity to inculcate, with a view to the conversion of persons whom I believe to be in error, doctrines which I cannot but think utterly unsound and of dangerous tendency, by arguments which will not stand the test of calm and rational examination. There are some who represent the present famine (as indeed they did the cholera some years back) as a divine judgment sent for the punishment of what they designate as national sins; especially the degree of toleration and favour shewn to the members of the Church of Rome. Now this procedure, the attributing to such and such causes the supposed divine wrath, is likely, when those of a different creed from our own are thus addressed, to be, by some of them, rejected as profane presumption, and by others *retorted*. When once men begin to take upon them the office of inspired prophets, and to pronounce bold-



ly what are the counsels of the Most High, it is as easy to do this on the one side as on the other. Roman Catholics who are told that a pestilence or a famine are sent as judgments on the land for the toleration of Romanism, may contend that, on the contrary, it is the Protestantism that is the national sin. And without the evidence of a sensible miracle to appeal to, neither party can expect to convince the other.

"When Israel was afflicted with a famine in the days of Elijah, on account of the idolatry of those of the people who had offended the Lord by worshipping Baal, the idolators might have contended that the judgment was sent by Baal against the worshippers of Jehovah, *had not* the prophet expressly denounced that judgment *beforehand*, and foretold both the commencement, and afterwards the termination, of the drought; besides calling down the fire from heaven upon the altar. This it is that enables us to pronounce that that famine was a divine judgment sent for the sin of Israel, and for *what* sin. And it is the same with the many similar cases that are recorded in Scripture. That Sodom and Gomorrah were destroyed on account of their abominable wickedness *we know*, because Scripture tells us so. And that Ananias and Sapphira were struck dead for tempting the Spirit of God we know, and all present knew, *because* the Apostle Peter announced beforehand their fate, and declared the crime which called it down. But for any uninspired man to take upon him to make similar declarations respecting any one of his neighbours who may die suddenly, or concerning any city that may be destroyed by a volcano or an earthquake, is as irrational and presumptuous as it is uncharitable and unchristian."

Unfortunately, however, the English clergy in general are not so far advanced in science as the Archbishop of Dublin, and they have afforded the nation a striking and painful illustration of the practical consequences which attend the enforcement of religious observances, based on obsolete principles. The Queen, under their advice, issued a proclamation, dated the 9th of March 1847, ordering a General Fast and Humiliation to be held on the 24th of that month, "in order to obtain pardon of our sins," and "the removal of those heavy judgments, ('scarcity and dearth of divers articles of sustenance and necessaries of life,') which our manifold sins and provocations have most justly deserved." This ordinance obviously proceeds on the assumption that the physical and organic laws of nature are actually administered, in our day, in the manner Cromwell and the Covenanters believed them to be in their age,—not on regular principles of causation, but in special reference to the moral and religious merits of the people. Nevertheless, science has destroyed this belief in so large a portion of the public, that the Queen's proclamation, and the fast and humiliation, have been disregarded by millions of the people, and made subjects of pungent ridicule by a portion of the

press. Among others, Douglas Jerrold, in his Weekly Newspaper of the 20th March, entertained his readers with grotesque representations of "the Fast-day at the Palace"—"in the fashionable world"—"in the House of Commons"—and "the Fast-day of the respectable man"—"of the middle classes"—and "of the destitute." His is not an infidel or irreligious newspaper, but one which has a wide circulation among the middle as well as the lower classes. No more effectual means could be devised by the wit of man to destroy all seriousness of religious feeling in the nation, and all sacredness in their views of the manifestations of God's providence, than proclamations ordering Fasts which provoke ridicule; and apparently they owe their existence to the errors of the Church, which, in this instance, is the instigator of the Government. It chooses to remain behind the age in its theology,—and to expose religion, the Queen's authority, and itself, to public derision. The famine in Ireland unquestionably proceeded from Divine appointment, and taught a most solemn and instructive practical lesson to all reflecting men; but it must be viewed in a different light, and different deductions must be made from it from those which appear in the proclamation, before it can be invested with that solemnity and sacredness which really characterise it.

The Fast-day sermons present a striking illustration of the confusion of ideas which prevails in the public mind regarding the course of Providence in temporal events. Science confirms the declaration of Scripture, that God maketh "his sun to shine upon the evil as upon the good," and gives no countenance to the notion, that vegetable substances prosper or suffer directly in their growth, in consequence of the moral qualities of the men in whose fields they grow. On the contrary, it proclaims that their condition and productiveness depend on the soil, the heat, the moisture, the electric influences to which they are subjected, the manure and the seed, and on the skill with which these are brought to co-operate in yielding a return. The moral qualities of their cultivators may lead them to attend to, or neglect, the proper administration of these natural causes of fertility, in so far as they are subject to human control, and, by this means, indirectly influence the productiveness of the ground; but there is no warrant in science for believing, that if all the natural conditions of fertility be present, a blight will nevertheless pass upon the crop because of the owner's general or particular sins; or, *vice versa*, that if these natural conditions be absent, God will nevertheless send a rich harvest

in reward of the owner's piety and charity. In the Fast-day sermons, however, little attention was paid to consistency on this point. In some of them, the potato failure was ascribed directly to sin; and, stranger still, not to sin in the owners of the fields, who suffered the loss, but in their rulers, or in somebody else over whose conduct the suffering peasants had no control. This doctrine implied that the course of Providence is still special and extra-natural. Other preachers acknowledged only a natural Providence in the blight; while many others spoke as if Providence, in some instances, observed the fixed relations of cause and effect, and, in others, set them all aside.

It is impossible that the public mind can advance in sound and self-consistent practical principles of action in this world's affairs, while such conflicting views of science, religion, and the course of God's Providence, are poured forth from the pulpit and the press; and it is equally impossible that the youthful mind can be trained to study, reverence, and obey the course of God's Providence, while it is treated with so little consideration by those who assume to themselves the character of the accredited expositors of the Divine Will.

The questions, then, whether there be an intelligible course of nature revealed to the human understanding, whether it should be taught to the young, and whether the religious sentiments should be trained to venerate and obey it as of Divine institution, are not barren speculations respecting dogmas and doctrines. They touch a highly momentous practical principle. While an impassable gulph stands between the views of God's Providence, on which society in its daily business acts, and the religious faith which it professes to believe, the influence of the latter on social conduct must necessarily be feeble and limited. It is a matter of great importance to have the principles of action and of belief brought into harmony. Nothing can retard the moral and intellectual advancement of the people more thoroughly than having a theology for churches and Sundays, and a widely different code of principles for everyday conduct; and yet this *is*, and *must continue to be*, the case with all the Christian nations, while they fail to recognise, and to teach the order of providence in nature, as a divinely appointed guide to human action.

A second Reformation in religion is imperatively called for, and is preparing. The new Christian faith will recognise man and the natural world as constituted by Divine Benevolence and Wisdom, and adapted to each other for man's instruction and benefit. It will communicate to the young a

knowledge of that constitution and its adaptations, as the basis of their religious faith and practice in reference to this world; and train them to realize in their own minds and bodies, and in the society to which they belong, *the natural conditions* on which health, prosperity, purity, piety, and peace, depend. Until this change shall have been accomplished, religion will never exert its due influence over human affairs.

Thomas Carlyle, in treating of the opinions of the seventeenth century, observes, that "the Christian doctrines which then dwelt alive in every heart, have now in a manner died out of all hearts,—very mournful to behold; and *are not the guidance of this world any more.*" This is literally true in the sense in which I have explained the fact; but in most other respects it is erroneous. It is chiefly in regard to the continuation of the special supernatural agency of God in this world, that the belief of the seventeenth century has practically gone out. It has not been abandoned in direct terms; on the contrary, it is retained in the standards and instructions of the churches; and is embraced, or attempted to be embraced, in the minds of many individuals; but, in point of fact, it is no longer felt to be a reality by modern enlightened Christians.

"Nay, worse still," continues Mr Carlyle, "*the cant of them does yet dwell alive with us*; little doubting that it is cant." With the *ignorant*, it is *not* cant, but a sincere, although a sadly confused belief. The strong-minded and well-informed men who have abandoned the ancient faith, are *wrong* in supposing that it is cant in their weaker brethren. They are themselves to blame for not honestly disabusing them, and informing them that the belief of the seventeenth century was, in this particular, a mistake, and that it no longer constitutes a practical rule of action. Mr Carlyle proceeds, "*In which fatal intermediate state, the eternal sacredness of this universe itself, of this human life itself, has fallen dark to the most of us.*" This is literally true. The religious sentiments are not permitted practically to recognise God's administration in the ordinary course of nature, as of Divine authority for the guidance of human conduct. We really *are* in the intermediate state here described. The old belief *has* partially died away, and our churches scowl upon the new belief, which perhaps may help to restore "the eternal sacredness of this universe itself, and of this human life itself."

In Germany, which led the way in the Reformation, the same truth has forced itself on the attention of religious men. Dr Tholuck, professor of theology in the university

of Halle, who is well known in this country as a distinguished evangelical Protestant divine, remarks :—

“ We live in an age when mankind is particularly rich in means to render the elements and nature subservient to their will. We live in a time when the individual becomes every day more independent of restraining power; and if in the same measure in which this might, and dominion, and richness in means, increases, the fear of God, and the consciousness of dependence on him, decreases more and more; when all these gifts and all these means, instead of being used in the service of God, and of his kingdom, are used in the service of selfishness and our own enjoyment; when man, through this dominion, becomes day after day, more free from earthly restraints, but each day more and more a slave to his earthly passions; when blinded man builds altars, and sings praises to his own skill and wit, instead of to his Heavenly Father, from whom cometh every good and perfect gift—oh! have not even the ancients foretold, what must become of such a generation in that wonderful fable of the daring of Prometheus, who, with violent hands stole from heaven its vivifying fire? What we here speak of is no anxious dream, no unreal imagination; no! *undeniable is the existing tendency in this generation, to consecrate the temple which our pious forefathers reared to their Father in heaven, to man, the fleeting son of an hour.*”\*

Who is to blame for this forgetfulness of God by the cultivators of science, but the churches who have omitted to teach the sacred character of Nature, and to acknowledge her instruction as Divine?

To those whose understandings have embraced the views which I am now advancing, and whose religious sentiments have been interwoven with them, “this eternal sacredness” stands forth in all the beauty, brightness, and intensity, which it ever possessed in the minds of the men of the seventeenth century. Mr Carlyle adds, “We think *that* too,” (viz. the “sacredness of the universe,”) “cant and a creed.” Yes—men of science, whose religious sentiments have never been led to recognise the Divine adaptations in nature as proclamations of the Divine will and attributes, but who have pursued their investigations from intellectual or interested motives alone, *do* regard the views which I am now advocating as “cant and a creed.” To such individuals I can only say that the religious sentiments exist in man; that the experience of all ages shews that they will cling to some object, and manifest themselves in one form or another; and the question is—Whether their legitimate direction in reference to this world is not to—

\* A Selection from the University Sermons of Augustus Tholuck, D.D., &c. p. 181. London, Seeley, 1844.

wards the great Designer of the universe, and his adaptations of nature in reference to human improvement and enjoyment?

If we can persuade the people that the course of nature, which determines their condition at every moment of their lives, "is the design—law—command—instruction, (any word will do,) of an all-powerful, though unseen Ruler, it will become a religion with them; obedience will be felt as a wish and a duty, an interest and a necessity." The friend from whose letter I quote these words, adds, "But can you persuade mankind thus? I mean, can you give them a *practical conviction*?" I answer,—In the present unsatisfactory condition of things, the experiment is, at least, worth the trying; not with a view to questioning the importance of Scripture teaching; but for the purpose of communicating to its precepts in relation to practical conduct in this world, a basis also in nature, and investing the ordinary course of providence with that degree of sanctity and reverence which can be conferred on it only by treating it as designedly calculated to instruct, benefit, and delight the whole faculties of man. Whatever objections may exist against this proposal, something is needed to reconcile religion and science; for, as Mr Carlyle remarks, "the old names suggest new things to us,—not august and divine, but hypocritical, pitiable, and detestable. The old names and similitudes of belief still circulate from tongue to tongue, though now in such a ghastly condition: not as commandments of the living God, which we must do or perish eternally; alas, no, as something very different from that."

This representation of our present condition is unfortunately too true, and we can scarcely fall into a more helpless, hopeless, and embarrassed state, in regard to the relations between secular and religious instruction, than that in which we now exist. This consideration may be pleaded as an apology for endeavouring to try something new. I shall proceed, therefore, to adduce a few illustrations of the manner in which I conceive that the religious sentiments may be profitably employed in enforcing obedience to the order of Providence in nature; but before doing so, I beg to observe that some obscurity, which it is proper to remove, occasionally attends the use of the words, "Laws of nature." A law of nature is not an entity distinct from nature. The atoms or elements of matter act invariably in certain definite manners in certain circumstances; the human mind perceives this regularity, and calls the action characterised by it, action according to law. But the term "law," thus used, expresses nothing more than the mind's perception

of the regularity. The word does not designate *the efficient cause* of the action ; yet many persons attach a meaning to the term, as if it implied causation. The cause of the regularity which we observe in the motions and reciprocal influences of matter, may be supposed to be either some quality inherent in the atoms, or certain powers and tendencies communicated to them by the Divine Mind, which adapts and impels them to all their modes of action. This last is the sense in which I understand the subject, and I coincide in the views expressed in an article in the *Edinburgh Review*,\* generally ascribed to the Rev. Mr Sedgwick.

“ What know we,” says he, “ of the God of nature (we speak only of natural means), except through the faculties He has given us, rightly employed on the materials around us ? In this we rise to a conception of material inorganic laws, in beautiful harmony and adjustment ; and they suggest to us the conception of infinite power and wisdom. In like manner we rise to a conception of organic laws—of means (often almost purely mechanical, as they seem to us, and their organic functions well comprehended) adapted to an end—and that end the well-being of a creature endowed with sensation and volition. Thus we rise to a conception both of Divine Power and Divine Goodness ; and we are constrained to believe, not merely that all material law is subordinate to His will, but that He has also (in the way He allows us to see His works) so exhibited the attributes of His will, as to shew himself to the mind of man as a personal and superintending God, concentrating His will on every atom of the universe.”

I add that, in adopting Mr Sedgwick’s phrase of “ a personal God,” I use the word “ person,” according to Locke’s definition of it,—“ a thinking, intelligent being, that has reason and reflection, and considers itself as itself, the same thinking thing in different times and places.” In this sense of the word, our faculties enable us to assign a personal character to the Deity, without presuming to form any opinions concerning His *form*, His *substance*, or His *mode of being*.

The key to the system of natural Providence appears to me to consist in a knowledge of the distinct agencies of nature and their results. Physical objects act in certain determinate modes, and produce certain invariable consequences ; organic substances act in certain determinate modes, and produce also invariable effects ; and each faculty of the mind, and function of the body, has its appointed constitution and mode of action, and it produces happiness or misery according as it is used or abused. General health, happiness, and prosperity, are the results of our habitually acting in confor-

\* Vol. lxxxii., p. 62, July 1845.

mity with the several ordinations of nature, each communicating its own pleasures or pains, independently of the others, but all being in harmony among themselves, and with the nature of man.

These views have now been submitted for twenty years to public consideration, in "The Constitution of Man," and more recently in my "Lectures on Moral Philosophy," to which I beg leave to refer. The Calvinistic press and pulpit have, at intervals, made war upon them; but the only plausible objection which I have seen stated to the general doctrine contained in them, is, that circumstances occasionally occur in which it is virtuous to set the physical and organic laws at defiance;—as when a man rushes into the water to rescue a drowning fellow-creature; or on a railroad-track, in order to remove from it a child or deaf or blind person, who, but for such assistance, would be smashed to pieces by an advancing train. The benevolent agents in such enterprizes occasionally lose their own lives, either saving, or not, those of the objects of their generous care; and it is argued that, in these instances, we applaud the self-devotion which set at nought the physical action of the waves and the train, and risked life to perform a disinterested act of humanity. But these cases afford no real exceptions to the doctrine which I have maintained, that even virtuous aims do not save us from the consequences of breaking the natural laws. A few explanations will, I hope, remove the difficulty apparently presented by these and similar instances. Unless the benevolent actors in these enterprizes are able successfully to encounter the waves and escape the train, there is little chance of their realizing their generous intentions or gaining the objects of their solicitude. Obedience to the physical laws until they succeed is indispensable, otherwise both they and their objects will perish, and the calamity will thereby be aggravated. If they save the object, but die themselves, there is no gain to society, but the contrary; the life lost is most probably more valuable than the one saved.

No man, therefore, is justifiable in leaping into the water even to rescue a fellow-creature, unless he be confident that, by his skill in swimming, or by mechanical aid at his command, he can comply with the physical law which regulates floatation. If he do go into the flood deliberately, and in the consciousness that he cannot comply with the conditions of that law, he commits suicide. If, under the impulse of generous emotion, he plunges into the water, miscalculating his power, and is overcome; although we may admire and applaud his humane intention, we must lament the mistake he



made in the estimate of his own ability. In the case of the railway train, if the generous adventurer, after removing his fellow-creature from the rail, is himself overtaken by the engine and killed ; while we give the tribute of our esteem to his humanity, we must regret his miscalculation. In no case is it possible to set the physical laws at defiance with impunity. Cases, such as those before alluded to, may occur, in which it may be justifiable to risk the sinister influence of a physical or organic law for the sake of a moral object of paramount importance ; but even in such instances we are bound to use every possible precaution and effort to obey those laws, because our success in attaining the object pursued will depend on the extent of our obedience. We cannot escape their influence, if we do infringe them, and, assuming that we save a fellow-creature, if we perish ourselves, we shall have only half attained our aim.

The objection to the doctrine of the natural laws, founded on these cases, appears to me to arise from a misunderstanding of the sense in which I use the word "punishment." The dictionary definition of *punishment* is "infliction imposed in vengeance of a crime ;" but this is not my meaning. The inflictions under *human laws* have no natural, and therefore no necessary, relation to the offence they punish. There is no natural relation, for example, between stealing and mounting the steps of a tread-mill. When, therefore, I am represented as teaching that, in these instances, the benevolent agent is "punished" with the loss of life, for acting under the impulse of his moral emotions, those who understand the word "punish" in the dictionary sense, are shocked, and reject the doctrine as unsound. But the difficulty disappears when the word is differently defined. By punishment, I mean the natural evil which follows the breach of each physical, organic, and moral law. I regard the natural consequence of the infraction, not only as inevitable, *but as pre-ordained by the Divine Mind*, for a purpose : That purpose appears to me to be to deter intelligent beings from infringing the laws instituted by God for their welfare, and to preserve order in the world. When people, in general, think of physical laws, they perceive the consequences which they produce to be natural and inevitable ; but they do not sufficiently reflect upon the *intentional pre-ordainment* of these consequences, as a warning or instruction to intelligent beings for the regulation of their conduct. It is the omission of this element that renders the knowledge of the natural laws, which is actually possessed, of so little use. The popular interpretations of Christianity have thrown the public mind so widely out of the track of God's natural

providence, that *His object or purpose* in this pre-ordination is rarely thought of; and the most flagrant, and even deliberate infractions of the natural laws, are spoken of as mere acts of imprudence, without the least notion that the infringer is contemning a rule deliberately framed for his guidance by Divine wisdom, and enforced by Divine power.

In considering *moral actions*, on the contrary, the public mind leaves out of view *the natural and inevitable*. Being accustomed to regard human punishment as arbitrary, and capable of abeyance or alteration, it views in the same light the inflictions asserted to take place under the natural moral law, and does not perceive *divine pre-ordination and purpose* in the natural consequences of all moral actions. The great object which I have had in view in "The Constitution of Man," is to shew that this notion is erroneous; and that there is a natural pre-ordained consequence, which man can neither alter nor evade, attached to the infringement of *every* natural law.

To express this idea correctly, a term is required, something between simple "consequence" and "punishment." The former fails to convey my idea in its totality, and the latter adds something to distort it. I find it difficult to discover an appropriate word; but hope that this explanation will render the idea itself comprehensible.\*

Believing, then, that this world is governed by physical, moral, and organic laws, appointed by Divine power and wisdom, and pre-ordained as guides to human conduct, I select from physiology an illustration of the practical application of this proposition.

Science enables us to discover that the Author of Nature has assigned a certain constitution, and certain functions, to the human lungs. The chief use of the lungs is to purify and vitalize the blood; and the blood is the grand fountain of nourishment to the bones, muscles, skin, nerves, and brain; in short, to the whole man. The organism of man is calculated to act for threescore years and ten, and during that period to afford enjoyment to the intelligent and sentient principle resident within it. But Divine Wisdom has appointed *certain conditions*, on the observance of which the organism will continue successfully to perform

\* The admirable expositions of Natural Theology by Paley, and in the Bridgewater Treatises and other similar works, have not been generally applied to practical purposes; and the reason may be found in their not recognising the distinct consequences attached to the breach of the several natural laws, as instituted, and pre-ordained to serve as guides to human conduct.

its functions, and on the infringement of which it will either become impaired or altogether cease to act. These conditions are, to a great extent, cognizable by the human intellect, and constitute *the terms* on which the boon of health and life is presented to man ; it being left in his option to accept and fulfil them, or to reject and infringe them, as he pleases : only, certain consequences are pre-ordained to follow each specific course of action ; and these he must abide by, whether he will or not. One of these conditions is, that he shall breathe the atmosphere in that state in which God has prepared it and adapted it to the lungs and blood. A combination of oxygen, nitrogen, and carbonic acid gas, in certain definite proportions, exists in the air, and is exquisitely adapted to our frame. A great increase or diminution of the proportions of any one of these, or the introduction of certain other gases, is fatal to health, and eventually to life itself.

Regardless, however, of this Divine arrangement, the inhabitants of Exeter, Liverpool, and many other towns, have, through ignorance and indolence, allowed the exhalations of decaying animal and vegetable matter to mingle with that compound atmosphere adapted by nature to their lungs and blood, and the consequence has been that many of them have suffered from disease, and prematurely died. On the 8th of December 1846, a public meeting was held at Exeter, "to consider the sanitary condition of that city." The Mayor was in the chair, and among the persons present were Viscount Ebrington, Sir J. Duckworth, M.P., Edwin Chadwick, Esq., Dr Southwood Smith, &c. A report was read by Mr Terrell, which "analysed the mortality of Exeter, and shewed that while the deaths in those parts of the city where there was good sewerage and an ample supply of water were from 1.83 to 1.93 per cent. (per annum), in other parts, where the drainage was deficient, the mortality was 5 to 7 per cent." Mr Chadwick observed, that in infancy, "life is more susceptible than at any other period—infants, as it were, live more on air." "Now what is the mortality at Exeter compared with Tiverton? I find that while one child out of every ten born at Tiverton dies within the year, and one-tenth is the average of the county,—one in five dies at Exeter. And then, after its escape of the first year's mortality, it has not gone through all its chances. I find, farther, that while, in Tiverton, *twenty-six* per cent. die under the age of five years, in Exeter no less than *forty-five* per cent. die under the age of five years."

When we trace these effects to their causes, is it not clear

that that purity of the atmosphere which, by the appointment of the Author of Nature, is necessary to the support of life, had been destroyed by foul exhalations ; that the human intellect was capable of discovering and removing the sources of that corruption ; and that it was a duty which the inhabitants of Exeter owed equally to God and to themselves, to apply the whole powers of their understandings and will to comply with the conditions of life ? Can there be a more becoming theme for the combined exercise of the intellect and religious sentiments than that which is presented by such occurrences as these, in which the voice of nature calls aloud on parents to save their children by yielding obedience to the Creator's laws ? Yet what occurs ? Mr Chadwick informs us. " Well," says he, " here, in this city, in one of the healthiest counties of the kingdom, with an admirable site, and with all favourable circumstances, you have an infantile mortality and slaughter that very nearly follows—very closely indeed—upon the infantile slaughter of Spital-fields, &c."

The same gentleman mentioned that, " about three years ago, an epidemic raged in Glasgow, and there was scarcely a family, high or low, who escaped attacks from it. But at Glasgow they have an exceedingly well-appointed, well-ventilated prison ; and in that prison there was not a single case of epidemic ; and in consequence of the overcrowding of the hospitals, which killed some two thousand people, they took forty cases into the prison, and not one of them spread. In fact, there are so many classes of disease so completely within management, that medical men who have the care and custody of those who are in comparatively well-conditioned places, are in the habit of saying, in relation to cases in their private practice, ' Oh, if I had but that case in prison, I could save it.' Now, what has your mortality to do with that disease here in Exeter ? I find that in Tiverton, while 23 out of 10,000 of the population are swept off by epidemic diseases, in Exeter no less than 103 are killed."

Here, then, we see a man of science, whose understanding is enlightened by the study of chemistry and physiology, clearly unfolding to the people of Exeter certain relations established by the Author of Nature between the composition of the atmosphere and the human body, in consequence of the infringement of which thousands of their fellow-citizens have perished prematurely. Yet these infractions of the laws of nature were allowed to continue, year after year, under the eyes of the Bishop of Exeter, unheeded and unrestrained. Not only so ; but while his flock was thus



|                                                                                                                                                                                                                                                                                          |          |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|
| Brought forward,                                                                                                                                                                                                                                                                         | L.1600   | 0 | 0 |
| Every case of death involves at least 29 cases of sickness, which at L.7 per case, is an annual expense of                                                                                                                                                                               | 9265     | 0 | 0 |
| Besides that, you have a loss of labour of four years and eleven months by premature death, as compared with Tiverton, which, on the excess of this year's mortality, makes a sum, supposing wages to be 7s. 6d. weekly per adult, on the average (and a very low average), of . . . . . | 39,000   | 0 | 0 |
| Making a total charge to this city of at least . . . . .                                                                                                                                                                                                                                 | L.49,865 | 0 | 0 |

Say L.50,000 a-year. And that does not take into account anything for the loss of the maintenance of the children that have been swept away, nothing for the extensive amount of premature widowhood, for the large amount of orphanage, you will find burdening your charities."

This is a *truly English* argument, employed to induce a people suffering from gross infringements of the order of nature, to remove the causes of pestilence and death from their dwellings! I greatly err in my estimate of the mental faculties of Mr Chadwick, if he is not as deeply impressed with the "sacredness of this universe, and of this human life itself," as he is obviously alive to the emotions of benevolence; and if he would not have felt his power over his audience greatly increased, if he had found their understandings so far enlightened, that he could have ventured to appeal to their religious sentiments, in order to give weight and authority to his words. Not only, however, was the knowledge of nature wanting in them, but an appeal to it, in connection with the religious sentiments, might have been regarded by religious men as infidelity, while by some men of science it would probably have been ridiculed as "cant and a creed." Such is the predicament into which the teaching of the order of nature as a guide to human conduct under the sanction of the religious sentiments, has been brought by English education! No *safe* course was left to Mr Chadwick, but the one which he pursued, that of addressing the *lower faculties* of the people—their acquisitiveness and fear!

I do not question the force of the arguments addressed to these faculties; because nature is so arranged, that when we depart from her paths in one direction, we are liable to fall into a multitude of errors, each accompanied by its own peculiar evils. Pecuniary loss is one of the natural consequences of bad health; but the consideration of that infliction is not one of the highest, or most efficacious motives for rousing a well educated people to energetic action, to remove from their hearths the causes of disease and death.

I select another example from Scotland. A report of the mortality in Edinburgh and Leith for the year 1846, lately published, presents the following results :—

|                                                                                      |            |
|--------------------------------------------------------------------------------------|------------|
| The mean age at death of the 1st class, composed of gentry and professional men, was | 43½ years. |
| The mean age at death of the 2d class, merchants, master tradesmen, clerks, &c.,     | 36½ years. |
| The mean age at death of the 3d class, artizans, labourers, servants, &c.,           | 27½ years. |

As I interpret this document, it is an intimation that these different classes have fulfilled, in widely different degrees, the *conditions* on which God proffered to continue with them the boon of life. We cannot imagine that He deals partially with men, and establishes one law for the rich and another for the poor : On the contrary, the structure of the various organs of the body on which life depends, is similar in all ; and the elements of the atmosphere, the rays of light, and the winds of heaven, which affect these organs for good or evil, diffuse their appointed influences without the least respect of persons. To the circumstance, therefore, of obedience or disobedience to the organic laws, must these painfully different consequences be ascribed. Is it wrong to inquire into the nature of these conditions ; to unfold them, when discovered, as valuable practical instruction to all these classes, and to appeal to their whole moral and religious sentiments to respect and observe them as Divine institutions, in order that the great gift of life may no longer be trampled by so many persons under foot ?

I became desirous to learn how much of this instruction is communicated by the Established Church of Scotland, in their great normal seminary in Edinburgh, an institution in which several hundreds of children belonging to the third class of citizens are educated, and nearly one hundred teachers are instructed in the duties of their profession. It is partly supported by Government, and partly by the Church. On visiting the school, I was informed that physical science forms no part of the instruction given either to the pupils or to the student-teachers, unless a few chapters on natural philosophy and chemistry in one of their reading books, taught without apparatus and experiments, be entitled to that name. Nay, it was added, that lately Professor Johnston had voluntarily instructed the student-teachers attending the institution, in as much of the elements of practical chemistry as might have enabled them, when they became parish schoolmasters, to train their scholars in

the rural districts to the analysis of soils, by which means they might have learned to cultivate their gardens and their fields with an intelligent perception of the laws on which fertility depends; but that this instruction had not been followed up. It formed no part of the course of study prescribed by the Church; many of the teachers saw no particular value in it; and when the Professor ceased to attend, it was entirely abandoned.

As a contrast, I find the following statement in the "Twelfth Report of the Commissioners of National Education in Ireland for the year 1845:"—"We have adverted in former reports to the importance of agricultural instruction. We have now five Agricultural Model Schools in operation, and we have undertaken to make grants towards five more, which have not as yet been established. There are also seven of the ordinary National Schools which have land annexed to them, and afford agricultural instruction." This shews some degree of appreciation, in the Irish Commissioners, of the importance of teaching one department of the order of nature at least to the Irish children. They also report, that "the principle is, and has been from the beginning, that the National Schools shall be open alike to Christians of all denominations!" In their Tenth Report, they assure us, that "the tendency of the system is to produce peace, and that knowledge of men's true interests, the want of which is so likely to lead to disaffection and crime." This stands to reason; but, nevertheless, *their* system, which teaches nature without the leaven of the thirty-nine articles of the Church of England, has been stigmatized as "godless;" while that of the Church of Scotland, which omits nature and substitutes a catechism in its place, is admired as a bright example of sound religious education!

While schools under clerical guidance thus reject nature, the current in scientific channels runs in a different direction. Dr Symonds, physician to the Bristol Infirmary, in a letter published by him in the British and Foreign Medical Review for October 1846, remarks, that medical "*art*, after all, is but Nature in a new form—a *fresh arrangement of the forces of Nature, compelling them to work under new conditions.*" He adds, "I am not fond of arguments from final causes; but can it be doubted that the various medicines we possess, *were, as such, a part of the plan of the universe designed to have a relation to morbid states of living organisms as much as esculent matters to healthy conditions?*" If this view be sound doctrine, which it certainly is, are not both of these adaptations fit subjects for the reverential exercise of our



religious sentiments, as well as for the investigation of our understandings? At present the public attention is much interested by the application of sulphuric ether to produce insensibility to pain during surgical operations. This application of it is still under trial, ; but should it ultimately prove beneficial, it will present another instance of the adaptation of physical elements to living organisms for benevolent ends.\* It baffles our comprehension why this discovery (if it shall prove advantageous) was not made sooner; unless, perhaps, we conjecture that He who endowed the ether and the organisms with their properties and relations, and bestowed on man faculties capable of discovering them, meant him to use these faculties for his own advantage, and that the long reign of suffering has been the consequence of infidelity to Nature and Nature's God. Men, in past ages, did not believe in nature as a system adapted by Divine Wisdom to the human constitution and presented to them for their guidance; and although physical science has forced, on well educated minds, a perception of the truth of this doctrine in regard to physical events, yet moral science is still so little understood that a too general scepticism prevails in regard to the moral government of the world by natural laws. According to my views, God does not send pestilences, earthquakes, or famines, to avenge this unbelief; but punishes each act of infidelity by pre-ordained deprivations of enjoyment, or pre-ordained evils which follow as the natural consequences of each act of omission or commission against His laws, whether physical, organic, or moral.

While science, as a practical guide to conduct, is thus excluded from the schools of the Church of Scotland, the Shorter Catechism is sedulously taught; and it presents the following view of the order of nature, and of man's relationship to it, for the instruction of the young:

"When God had created man, he entered into a covenant of life with him, upon condition of perfect obedience: forbidding him to eat of the tree of knowledge of good and evil, upon pain of death.

\* Professor Simpson of Edinburgh has applied sulphuric ether to produce insensibility to pain in cases of difficult labour, hitherto with success. While it extinguishes sensibility for the time, it does not impede the muscular contractions which accomplish child-birth, and, in consequence, he recommends it to be used in cases also of natural labour. The benevolence and wisdom implied in such a pre-arrangement as this, if experience confirm it, appear calculated to excite admiration and gratitude in every well-constituted mind; nevertheless, I have heard this application of sulphuric ether, assuming it to be successful, objected to, as being a profane attempt to abrogate the primeval curse pronounced upon woman!

" Our first parents, being left to the freedom of their own will, fell from the estate wherein they were created, by sinning against God.

" Sin is any want of conformity unto, or transgression of, the law of God." (This definition would include all the laws of God ; but, nevertheless, orthodox authorities in general regard a want of conformity unto, or transgression of, the laws of physical and organic nature, as acts only of imprudence or indiscretion.)

" The sin whereby our first parents fell from the estate wherein they were created, was their eating the forbidden fruit.

" The covenant being made with Adam, not only for himself, but for his posterity, all mankind descending from him by ordinary generation, sinned in him, and fell with him in his first transgression.

" The fall brought mankind into an estate of sin and misery.

" The sinfulness of that estate whereunto man fell, consists in the guilt of Adam's first sin, the want of original righteousness, and the corruption of his whole nature, which is commonly called original sin ; together with all actual transgressions which proceed from it.

" All mankind by their fall *lost communion with God, are under his wrath and curse, and so made liable to all miseries in this life, to death itself, and to the pains of hell for ever.*"

Here, probably, lies the grand obstacle to the blending of clerical with scientific instruction in education. Before the religious sentiments and the reflecting intellect of the people can be induced to reverence and obey the precepts of God addressed to them in the order of nature, they must be taught that nature is still such as God made it, and that it reflects wisdom and goodness in all its parts. *There can be no sacredness* in nature, if it be intrinsically disordered and out of joint. In studying it, we cannot come into communion with God, if through either its inherent derangement or our own natural obliquity of mind, His wisdom and goodness are *not* discernible in it ; while if they *are* discernible, it cannot be justly said that man has lost communion with his Maker. If the divine adaptations in nature be calculated to raise and improve man as a moral, religious, and intellectual administrator of this world, he cannot be truly said to be under God's " wrath and curse."

Farther, if the teaching of the Old and New Testaments, in regard to human conduct in this world, depends, for its practical efficacy, on that teaching being in harmony with, and supported by, the order of nature,—then the foregoing representations of the physical and moral worlds, and their relations to each other and to God, are not only speculatively erroneous, but constitute positive and important impediments to the progress of Divine truth. They tend to blind the intellect, and mislead the moral and religious sentiments

of the people, and thereby to retard their advance in practical wisdom, religion, and virtue.

I select the next example from Scripture. In the sacred volume we are told "to do justly, to love mercy, and to walk humbly with our God," (that is, to obey His commandments). We are desired also to love our neighbours as ourselves, and to do unto them as we should wish that they should do unto us. Are these precepts *practical* in this world, or are they not? and what is implied in their being practical? Before they can become practical, it must be shewn that they are in harmony with, and supported by, the order of nature; that is to say, that nature is so constituted and arranged, that all the real interests of individuals and nations are compatible with each other, and that it is not necessary to rob and impoverish one to enrich another. Not only so, but that all injustice, oppression, and spoliation, being in opposition to the order of nature, must ultimately lead to evil and suffering to the perpetrator, or to those to whom he leaves the legacy of his spoils and his crimes. If such be the constitution of nature, then these precepts *are* practical. If, on the other hand, the order of providence admits of individuals and nations profiting by injustice and oppression, and reaching, and continuing to enjoy real prosperity and happiness through the systematic practice of crimes and violence, then are these precepts *not* practical in this world.

The history of all Christian nations shews that while they professed to believe in the Divine authority of the Scriptures, they were in a great measure sceptics as to their precepts being supported and enforced by the order of nature. In their practical conduct towards each other, they have too often set them at defiance; nay, each has striven to depress, spoil, and ruin its neighbour, as the most effectual means of raising itself to independence and prosperity. But not one of the nations has succeeded in attaining its ends by these means. The history of England's treatment of Ireland affords an instructive lesson on this topic.

Six centuries ago, in the reign of Henry the Second, England conquered the sister isle, and ever since has continued to sway her destinies. From the first day of her conquest to our own times, English statesmen have acted towards Ireland on principles diametrically opposed to the injunctions of the New Testament. They insulted the feelings of the Irish, placed shackles on their industry, shut them out from many of the most valuable rights of British subjects, placed the religion of the majority out of the pale of the constitution, prohibited its professors, under pain of banishment for

the first offence, and of death for the second, to act as school-masters or tutors in the instruction of their people; and when at last, in 1783, Ireland, in a moment of her strength, and of England's weakness, asserted her independence, and achieved a native legislature, English statesmen converted that legislature, by means of systematic corruption, into a new instrument of injustice and oppression: England pursued this course notoriously with the view of providing for her own safety, prosperity, and power! Has she succeeded? No. A calm survey of her history will shew that from the first day of her oppression to the present time, every injury inflicted on Ireland has recoiled on her own head; and that at this hour, Ireland is the source of her greatest weakness, anxiety, and suffering. She is paying eight millions sterling to save from starvation the victims of the system which she has pursued, and does not yet discern the end of the retribution which she has drawn upon her head.

During the whole period of this long crusade against the course of Providence and the precepts of Christianity, the rulers and people of England professed to believe in the Divine authority of the Scripture injunctions which they were trampling under foot; but they did not believe in their being supported by the order of nature. If they had believed in this, their conduct would have been as insane as that of men who should have sown corn in snow, and expected to reap a harvest from it in winter. Cromwell, and the religious men of his age, did not recognise the order of nature as supporting Christianity. On the contrary, they not only believed in a special supernatural providence, but when they were gratifying their own misguided passions, they complacently viewed themselves as the chosen instruments of God's vengeance for punishing His enemies. Statesmen who were not religious, either formed no deliberate opinion of any kind regarding the course of Providence on earth, or considered it as arbitrary or mysterious; not cognizable by man, and not available as a guide to human conduct. Indeed, the great majority of Christian statesmen and people, while they are disposed to acknowledge the existence of physical laws of nature, still disbelieve in the government of the world by *moral* laws. Lord Stanley lately presented, in a public document on convict treatment, a distinct expression of his conviction, that it is *not lawful* for man to adopt the order of nature as a guide to his conduct. Captain Maconochie had urged on his Lordship that "we cannot err in taking that model (*viz.* 'the discipline to which we are all subjected by Divine providence') for our guidance in our at-

tempts to elevate the characters of our guilty, but yet more unhappy brethren." To which his Lordship answered, "I do not understand that it is permitted to us thus to constitute ourselves imitators of the Divine government under which we live ; or that, in this respect, the march of infinite wisdom is to be followed by beings of so contracted a range of knowledge and foresight as we are."\*

Lord Stanley and his predecessors certainly were not guilty of imitating the "march of infinite wisdom" in their convict management, but followed the counsels of their own will ; and the result is now before the world. The transportation system is publicly acknowledged to have proved an utter failure, after costing hecatombs of human victims and millions of expense ! It is, in future, to be abandoned. The men who saw and believed in an order of nature, predicted these issues from the beginning. Lord Bacon even denounced the natural consequences of the system as detrimental to humanity, and hundreds of voices have been raised against it from his age to ours. Nevertheless, statesmen, without inquiring into the causes of crime, the nature of criminals, or the adaptation of transportation to remove those causes and to improve that nature, proceeded in a course dictated by their own short-sighted preconceptions alone. The course of nature, however, could not be altered. Their measures were at variance with the pre-arranged adaptations of Providence ; and nature triumphed, while they have recoiled, baffled and astonished. And this will ever be the case, until the "*sacredness* of this universe, and of this human life itself," be practically recognised by those who wield the destinies of nations, as well as by those who are subject to their sway.

Another example of unbelief in the action of a moral providence in nature is afforded by the author of a recent able and eloquent pamphlet—"The Case of Ireland stated, by Robert Holmes, Esq." After detailing the wrongs of Ireland, the author speaks of "moral force" as a means of her deliverance, in the following terms. "Moral force," says he, "is a power, by the mere operation of reason, to convince the understanding and satisfy the consciences of those on whom the effect is to be wrought, that there is some particular moral act, within their ability to perform, which ought to be performed, and which it is their duty to perform ; and, also, by the operation of the same divine principle only, making

\* Parliamentary Paper on "Van Diemen's Land," ordered by the House of Commons to be printed, 9th February 1846, p. 11.

those free moral agents do the very thing required. The intended effect must be produced, and must be moral—the efficient cause must be moral, purely moral, unmixed, undiluted, by any mean or sordid views; reason, heavenly reason, applied with eloquence divine; no threat, no intimidation, no cold iron, no ‘vile guns,’ no ‘villanous saltpetre dugged out of the bowels of the harmless earth,’ nothing but the radiant illuminations of moral truth.†—(P. 96.)

Mr Holmes considers this as a mere “evaporation plan,” adopted as a safety-valve to Irish discontent. “It seemed,” says he, “to be considered by the expediency men of the day as a first-rate contrivance;” but he regards it as pure “fudge,” and seems to prefer “monster meetings,” and displays of physical force, which may be used in case of need, as better calculated to accomplish “repeal of the union,” and the redress of Ireland’s wrongs. But Ireland has frequently tried to right herself by means of “cold iron,” “vile guns,” and “villanous saltpetre,” and with what success her present condition shews.\* It is obvious that Mr Holmes does not comprehend the lessons contained in his own pamphlet, and is an unbeliever in the moral government of the world. He does not see that the advocates of justice to Ireland are backed not only by “the moral” but by the “physical force” of God’s providence, in virtue of which they are able to demonstrate to England, that every sordid act which she has committed against Ireland has redounded in evil to herself, and that the scheme of creation is so thoroughly moral, so skilfully combined, and so unbendingly enforced, that the wisdom of all her statesmen, the counsels of all her bishops, and the voices of her whole people, will not suffice to turn aside the stream of suffering which she has drawn, and will continue to draw, upon herself, from every fountain of injustice which she has opened, or may hereafter open, in Ireland. What are the disappointments to avarice, the humiliations of baffled bigotry, the incessant consciousness of

\* I am no advocate of the doctrine of non-resistance. Organs of Combative-ness and Destructiveness exist in man, and they have legitimate spheres of activity, one of which appears to be to repel, by physical force, aggression which we cannot overcome by moral means. Armed resistance is one of the natural checks to injustice; but it is liable to one great disadvantage. The contests of force are governed by the laws of force. The most numerous, best appointed, best disciplined, and most ably commanded army, will gain the victory, irrespective of the moral merits of the cause for which it fights. High moral motives animating it will, no doubt, add to its discipline, its patience, and its devotion, and thus indirectly contribute to success; but they will not, in any other respect, supply the place of the ordinary sinews of war. Nature, however, has other modes of arresting injustice; and violence should never be resorted to until all better means have been tried without success.

insecurity and weakness, and the lavish waste of treasure, which have followed from England's injustice to Ireland, but the sanctions of nature's moral laws, and the punishments which give reality and efficacy to the doctrine of "moral force?"

Mr Cobden and his coadjutors carried repeal of the corn laws by the use of moral force alone; but they understood its nature and sanctions; that is to say, they demonstrated to the religious public that free trade is implied in the Scripture precepts before quoted—to the moral public, that free trade is prescribed by the dictates of the sentiment of justice inherent in the human mind—to the merchant, manufacturer, and husbandman, that free trade is not only compatible with, and calculated to promote, their worldly interests, but that these cannot be permanently and systematically advanced by any other means. In short, they shewed that every attempt of every class to benefit itself by unjust monopolies and restrictions had ended in failure, and had been punished not only by defeating its own end, but by actually obstructing the attainment, through other and moral means, of the very objects which the monopolies were introduced to promote.

Unless all this be actually true, free trade cannot maintain itself even now when it is established; and it was the moral conviction that these views *are* true, that first inspired Mr Cobden with full confidence in the success of his agitation.

The advocates of "moral force," therefore, who see a moral government of the world established and enforced by God, wield not only "reason, heavenly reason," as an instrument for attaining justice, but "threats" and "intimidation;"—not the threats of "cold iron" and "vile guns," which may be employed in support of oppression and wrong as successfully as in vindication of right, but "threats" of evil from a power which no human sagacity can baffle, and no might withstand. Yet if the threats *be* real, and if the inflictions be as certain as fate, what a strange condition of mind must Christian men be in, when they imagine moral force to be a mere "evaporation plan," altogether unsupported, when not backed by "vile guns" and "villanous saltpetre!" Before, however, they can wield moral force with effect, they must be converted to a belief in the real, actual, and efficient government of the world by God's secular providence, and they must search for evidence of this government, and teach it to their countrymen. The creeds and confessions of churches must be revised and new-modelled into accordance with the order of nature, and the Christian

precepts must be allowed the benefit of nature's support to give efficacy to their injunctions.

If the liberal members of the European community who desire to accomplish moral, religious, and political reforms, could be convinced of the reality of the moral government of the world, and take up this doctrine as the basis of their operations, no political tyranny, and no erroneous creed, could withstand their assaults. While they rely on guns and bayonets as their means of resisting misrule, they stand at a disadvantage, for these are equally available to defend error as to maintain truth; but when, abjuring these, they shall employ their higher faculties in discovering and demonstrating the combination of causes and effects, by means of which that moral government is actually carried into effect, they will become conscious of a strength before which error in every form will ultimately succumb.

Mr Holmes' blindness to the moral order of creation is evinced by another proposal which he advocates. While he admits that, during all the period of England's oppression, Irishmen were, in general, so destitute of moral principle, patriotism, and mutual confidence, that England, at all times, found among them willing tools to perpetrate her deeds of injustice, and Ireland never (except for a few months in 1782) found in her own population moral, intellectual, and physical resources sufficient to oppose or arrest them,—he looks to repeal of the Union, and the delivery of Irish affairs into Irish hands, as the only panacea for her sufferings and her wrongs. But if the view which I am now expounding be not a dream, Irish wrongs will never be righted until her destinies are swayed by a moral and enlightened legislature; and whether this shall hold its sittings on the one side of St George's Channel or the other, will matter little to either country; for, as God's providence embraces both, and has rendered beneficence and justice the only road to permanent happiness and prosperity for either, that legislature will first redress her wrongs which shall first bow before the power of God, and enforce His laws as superior in wisdom and efficacy to any which their own selfishness and prejudices can substitute in their place.

The advocates of the inherent moral disorder of the world, however, will probably point to history and to the actual condition of the human race in every country of the globe, as affording demonstrative evidence that this supposed moral government is a dream. The past and present sufferings of mankind cannot be disputed; but I ask, In what age, and in what nation, have the religious instructors of the people been



believers in an actual practical moral government of the world by God? Where and when have they expounded the natural arrangements by means of which this government is accomplished? And when and where have they directed the religious sentiments of the people to reverence and obey the natural laws as the roads that lead to secular virtue and prosperity? Ever since the promulgation of Christianity, has any nation discovered, and practically fulfilled the natural conditions by which the precepts of this religion are supported and enforced? Not one example is known of such conduct:—need we, therefore, be surprised at the results being such as history discloses and we perceive? The evidence of past and present experience certainly demonstrates that mankind, by shutting their eyes to the order of Providence in the world, by trampling the dictates of morality and religion under foot, and by seeking prosperity and happiness under the guidance of their selfish animal propensities, have never realized the objects of their desires; but it does not prove that no scheme of moral government adapted to their nature exists. It shews that they have not discovered such a scheme; but neither had they discovered the steam-engine, railroads, nor the effects of sulphuric ether, until a very recent date. They have been, and generally speaking continue to be, ignorant of their own nature;—of the adaptations of the external world to its constitution;—of the principles on which the order of nature is framed; and of their own capabilities of conforming to it; and hence many of their sufferings may be accounted for; but the requisite discoveries may be made, and indeed have been partially made, and all experience shews that human happiness has increased in proportion to obedience to the natural laws. The most intelligent, moral, and industrious nations are the most prosperous and happy; the most ignorant, idle, self-seeking, turbulent, and aggressive, are the most miserable and poor. These undeniable facts afford strong indications that a moral government of the world by natural laws exists; and if it does so, is not the discovery of its scheme an important study claiming the serious attention of man? I cannot too often repeat that unless the Christian morality be sustained and enforced by the order of nature, it is in vain to teach it as a rule of conduct in secular affairs. And how can this study be commenced and prosecuted, how can new truths be turned to practical account, except by reverencing Nature and her adaptations as Divine institutions—teaching them to the young—and enforcing them by the authority of the moral and religious sentiments? If man be a moral and intellectual

being, it appears not to be inconsistent with this character to have constituted his mind and body and nature in harmony with each other, and to have left him, in the exercise of his discretion, to work out, to a considerable extent, his own weal or woe. The fact that he, through ignorance and the misapplication of his powers, has hitherto experienced much misery, affords no conclusive evidence, that by more extensive knowledge, and more strict obedience to the laws of his nature, he may not greatly improve his condition.

Assuming, then, for the present, that an order of nature, pre-ordained by God for the purpose of guiding human conduct, exists—that it is cognizable to a greater or less extent by the human understanding,—and that it is in harmony with, supports, and enforces, the practical precepts of Christianity,—I proceed to apply these assumptions to the subject of national education.

Science is an exposition of the order of Nature, and the order of nature is just another form of expression for the course of God's providence in the affairs of this world. The sciences of anatomy and physiology embrace systematic expositions of the course of providence in relation to health. Chemistry unfolds the course of providence in fertilizing our fields, and in placing the minute combinations of matter under our control as elements of utility and ornament. Natural philosophy describes the course of providence by which the stupendous universe of suns and worlds, stretching beyond the grasp even of our imaginations, is bound together and regulated; and unveils to us, through the microscope, the incomparable skill displayed in the structure of the minutest forms of animal and vegetable life. And, in the principles of mechanics, it teaches us the extent and the conditions under which God has enabled us to apply the motive powers of nature to our own advantage. Phrenology unfolds to us the course of providence by which the health and vigour of the mind is regulated in connection with the body. In every cerebral organ which it accurately describes, it presents an instructive lesson regarding the sphere of activity, the uses and abuses, of the concomitant mental power. The science of moral philosophy includes among its objects the exposition of the natural consequences attached by the Creator to the use and abuse of every faculty of the mind and function of the body. Natural religion, using all this instruction as its basis, aims at investing every portion of the course of providence with a sacred character. It commands us to study it as a record of precious practical wisdom; to revere it as the counsel of the Most High, addressed to our intelligence and adapted to

our wants ; and to obey it as an indispensable condition to our attaining truth, purity, and intellectual elevation, with their concomitant blessings of health, happiness, and prosperity on earth.

These are named as a mere specimen of the sciences and their subjects. I admit that they are very imperfect, and that in many of them much error may be mixed up with truth. But this does not affect the question now under consideration. In so far as they contain any truth, that truth is Divine wisdom, addressed to man for his instruction and guidance. It merits the attention of his intellect and the respect of his religious sentiments ; and therefore should be taught in schools.

In the standards of certain churches and sects there may be found a general and formal recognition of God's natural providence as a guide, more or less intelligible, to human conduct ; but, nevertheless, no church and no religious sect with which I am acquainted, has recognized the order of nature as the basis of the practical precepts which it teaches regarding secular conduct and duty ; and not one of them has expounded that order even as the ally and support of Christianity. Not only so ; but although mentioning in general terms God's natural providence as a guide to human conduct, not one of them proceeds, in its formularies, to shew *how* natural providence acts, in producing good or evil to man. Science, as I have said, attempts to do this ; but many religious men denounce the teaching of science as "godless education." While they are thus nearly unanimous in practically rejecting the course of providence in nature as a source of instruction to the young, each places in their hands its own Catechism of doctrines, its Liturgy, its Confession of Faith, or its other articles of belief ; and with the most pertinacious assiduity labours to imprint these indelibly on the memory, and to imbed them in the affections of its pupils. Meanwhile many of the sects denounce the catechisms, liturgies, and confessions of certain others as unsound, unscriptural, and dangerous to the eternal welfare of the people. Here, then, is a record unquestionably Divine, in so far as we read it rightly, superseded and set aside for books of human compilation, denounced as unsound by large masses of the community.

The effect of this on education is described by Mr Horace Mann\* in the following words :—"After the particular at-

\* Report of an Educational Tour in Germany and Parts of Great Britain and Ireland, by Horace Mann, Esq., Secretary of the Board of Education, Massachusetts, U. S. With Preface and Notes, by W. B. Hodgson. London : Simpkin, Marshall, and Co. 1846.

tention which I gave to this subject (religious instruction) both in England and Scotland, I can say, without any exception, that, in those schools where religious creeds and forms of faith, and modes of worship, were directly taught, I found the common doctrines and injunctions of morality, and the meaning of the preceptive parts of the Gospel, to be much less taught and much less understood by the pupils, than in the same grade of schools, and by the same classes of pupils with us," in Massachusetts, where the teaching of all sectarian doctrines in common schools is prohibited by law. Is not this sacrificing Christianity itself at the shrine of Sectarianism?

The elements of which a sect is composed, are the points in which it differs from other sects, and its existence depends on the success and assiduity with which it infuses a knowledge of and reverence for these into the minds of the young. It represents them as subjects of the utmost importance to their temporal and eternal welfare. In the estimation of its zealous leaders, they greatly surpass in practical as well as religious importance, the order of nature. If any sect were to cease investing its points of difference with the highest reverence in the estimation of its pupils, and begin to magnify the truth and utility of the doctrines in which all are agreed, it would commit *felo de se*. Its dissolution and fusion into the general body of Christian believers would be inevitable and speedy. The more completely, therefore, the different sects obtain the command of education, the greater will be the obstacles to the introduction of the order of nature into schools.

The points in which all Christian sects are agreed *must* constitute the essential substance of Christianity; because it is on these that Christian men of all denominations act in the business and relations of life. Pious, honest, and benevolent men, abound in them all; and this common excellence must spring from a common source. The points on which they differ, although they form the life-blood and bonds of union of sects, cannot constitute Christianity; because if they did, the Christian religion would really have scarcely any practical form or substance. It would consist of abstract disquisitions, discernible only by microscopic eyes, and inapplicable to all beneficent ends. Who will say that the points of faith in which the Church of England differs from the Congregationalists, or the views of church government in which the Free Church differs from the Established Church of Scotland—or the Secession Church from the Free Church—or the Scotch Episcopalian Church from them all—are the essential elements of Christianity? And yet it is for the sake of main-

taining these distinctions from generation to generation, and of transmitting to the remotest posterity the bitter contentions which have so frequently vexed the spirits and alloyed the happiness of this age, that we are called on to exclude instruction in the course of nature, as a guide to human conduct, from our schools; to reject a system of education founded on the points in which all are agreed; and to prostrate the national mind beneath the car of sectarianism, and to allow it to be crushed into dust by its unhallowed wheels!

Practical Christianity, on the other hand, and the laws of nature, physical, organic, and moral, present the same instruction and recommend the same line of action to all, and are, therefore, destructive of sectarianism. Hence the deadly cry of infidelity which all sects raise against them! Obedience to them is calculated to bind man to man, and nation to nation, by the ties of reciprocal interest as well as of affection and duty, and to bring all into communion with God. Our knowledge of them grows with the growth of science, and their influence increases with the augmentation of the prosperity which obedience to their dictation yields.

Every motive of duty and interest, therefore, calls on the laity and the Legislature to disenthral education from the dominion of sects, and to allow to God's providence a fair field for working out its beneficial ends. Disguise the fact as we will, the order of nature—in other words, God's secular providence—is a power which in this world shapes our destinies for weal or woe; while the peculiar doctrines of sectarianism only exalt the consequence and power of clerical teachers, and the few zealous laymen who constitute their staff. To vote money, therefore, as is done by the Minutes of Council of August and December 1846, to every sect, to enable it to educate its own members in its own religious doctrines, is actually to endow discord. It is deserting the shrine of reason and of moral and religious principle, and bowing at that of prejudice and bigotry. It is renouncing all reverence for God's providence, as revealed in the course of nature; for every one of the sects, if it does not exclude, deny, and denounce the order of nature as a source of practical instruction to the young, at least practically treats it as a matter of small importance compared with its own peculiar dogmas. To give them the public money to enable them to pursue this course of instruction more effectually, is to encourage them in placing their own wisdom high above that of the Creator.

Truth alone can benefit a nation, yet the doctrines of every sect cannot possibly be true: to give each of them public

money, therefore, to teach its own tenets, is to endow equally truth and error. It is tantamount in physics to setting in motion antagonistic forces ; in cookery, it is like paying one man to pour wormwood and another sugar into the cup of which the nation is to drink. By all means allow the men who prefer wormwood to fill their own bowl with it ; and those who prefer sugar to fill theirs with sugar ; but let not the Government, which superintends the cup out of which all must drink, pay men with national money to destroy the contents of that cup, and render them a potion which no human palate can endure. To pay all sects, who are teaching solemn contradictions, implies an utter disbelief in any intelligible order of God's providence on earth. It deliberately supersedes the teaching of it, and plants conflicting catechisms, liturgies, and confessions, in its place. If the heads of the Government cannot discern in science an exposition of the order of nature, or, in other words, of the course of God's providence on earth, they may at least so far defer to Divine wisdom and intelligence, as to believe that God's providence, however dark, must be self-consistent, and that it does not promise to prosper contradictions !

Will not the men of intellect and science who see this to be the case assume courage, speak out, and help to stem the torrent of sectarianism which overflows the land ! They have it in their power at this moment to do their country an invaluable service, for which she would one day rear monuments of gratitude to their names. Will they, through fear of a little temporary obloquy, desert the standard of truth, of God, and of the people ! Let their own consciences answer the appeal, and let them act as their consciences dictate. Will no teachers arise, imbued with knowledge of the order of nature, as unfolded in science, and, with faith in its adaptation to the human faculties, communicate it, under the sanction of the religious sentiments, to the young, as a help to guide them through the thorny paths of life ? Yes ! Such teachers exist, and they lack only the countenance of the enlightened laity to follow the strong impulses of their affections and understandings, and accomplish this great improvement in secular instruction.

Moreover, under the sectarian system, not only is the advancing intelligence of the people shackled by the consecrated errors of the dark ages, but the most vigorous and profound thinkers among the clergy of all denominations are subdued and held in thralldom by their feeblers brethren. The men of inferior endowments and intelligence take their stand on the accredited dogmas, which they cherish because

they are in accordance with their own narrow and prejudiced perceptions; and they resist every liberal idea and study that has the most remote appearance of conflicting with their own preconceived ideas. As they exert a great influence over a half-educated people, trained to regard their doctrines with holy reverence, the more powerful minds too generally retire from the field, and leave to them an undisputed sway.

The best interests of society suffer from this unhappy state of things; whereas if nature were taught, as the harmonious ally of Christianity, the men endowed with the profoundest intellects, and the purest and most elevated emotions, would lead the general mind, and we should constantly advance. In the present time, the leaders of the Calvinistic sects are strenuously exerting themselves to bring back the public sentiment to the opinions of the beginning of the seventeenth century; and if they do not succeed, it is science alone which prevents this consummation of their labours.

From the neglect of nature by the sects, and the paramount importance which they attach to their own peculiar doctrines, they languish when not excited by contention among themselves. Dr Candlish illustrated this fact lately, when he called on the Free Church to renew and proclaim its "testimony;" in other words, constantly to obtrude on public attention the peculiar views which distinguish it from all other sects. He assigned, as the motive for doing so, the danger of decay, with which it appears already to be threatened, from its distinctive characteristics being forgotten, seeing that its standards, doctrines, and discipline, are identical with those of the Established Church of Scotland. There is no perennial source of activity and progress in any doctrine that is not in harmony with and supported by the course of nature. A scheme, on the contrary, founded on the combined principles of Christianity and God's natural laws, will enjoy an inherent vitality, and a self-rectifying energy, that will cause it constantly to flourish and advance. It will in time root out sectarian errors, and unite all classes in the bonds of harmonious truth.

In advocating a non-sectarian system of national education, I do not propose to deliver over scholars and teachers to government officers, with power to mould their minds into whatever forms our rulers may prefer, as some advocates of sectarian instruction pretend. The United States of North America have set us a bright example in this enterprize. They have divided their country into convenient spaces, and designated them as school-districts. The existing law of Massachusetts (Revised Statutes, 1835, title x., chap. 23),

ordains that districts containing fifty families shall maintain one school—districts containing one hundred and fifty families shall provide two schools, and so forth,—“in which children shall be instructed in reading, writing, geography, arithmetic, and good behaviour, by teachers of competent ability and good morals.” Larger districts, again, are required to maintain a school, “in which the history of the United States, book-keeping, surveying, geometry, and algebra, shall be taught.” And if the locality shall contain four thousand inhabitants, the teacher shall—“in addition to all the branches above enumerated, be competent to instruct in the Latin and Greek languages, general history, rhetoric, and logic.” The law requires the inhabitants to raise money by taxing themselves for supporting these schools, and ordains them to appoint committees annually for managing them.\*

In regard to the question, What, in conformity with law, may be taught in these schools in the name of religion? the “constitution” of Massachusetts requires that all children shall be taught “the principles of piety, justice, and a sacred regard to truth, love to their country, humanity, and universal benevolence, sobriety, industry, and frugality, chastity, moderation, and temperance, and those other virtues which are the ornament of society, and the basis upon which a republican constitution is founded.” The “constitution” goes no farther in specifying what things may be taught; but by the laws of the State, the school committees are authorised to prescribe the books which shall be used in the schools, under the restriction (imposed by section 23d of the Revised Statutes)—that they “shall never direct to be purchased or used in any of the town schools any school-books which are calculated to favour the tenets of any particular sect of Christians.” This prohibition was *first* enacted in 1827; but in 1835, when the statutes were revised, it was retained and re-enacted by an almost unanimous vote in both branches of the Legislature, and was approved of by Samuel T. Armstrong, an orthodox gentleman, then acting as Governor of the State.

The Bible is allowed to be read in all, and is actually read in nearly all, the schools; and, of course, whatever it teaches is taught.

Farther, “Under the provisions of the constitution and

\* Farther details concerning the machinery by which the schools are managed, and the taxes levied, in Massachusetts, will be found in an article in the *Edinburgh Review* for July 1841, under the title of “Education in America.”



laws, children may be taught to love the Lord their God with all their heart, and their neighbour as themselves ; they may be taught to do to others as they would be done by ; to do justly, to love mercy, and to walk humbly with God ; they may be taught to visit the fatherless and widows in their affliction, and to keep themselves unspotted from the world ; they may be taught to honour father and mother ; to keep the Sabbath holy ; not to steal ; not to kill ; not to bear false witness against neighbours ; not to covet. Nay," continues Mr Mann, " I refer to that awe-inspiring description of the judgment in the 25th chapter of Matthew, and I say that there is not a single *action* or *omission* there mentioned, for which the righteous are to be rewarded and the wicked punished, that may not be taught, inculcated, or warned against, in all our schools. Such, also, I know to be the opinion of the Board of Education. Are all these things, and everything else of a kindred character, which the Scriptures contain, *non-essentials* in Christianity ? But perhaps you desire something more for the schools ? Perhaps you desire, not only that these passages (quoted by an evangelical adversary) should be read, but that certain articles of faith, or formularies, more or less in number, embodying these passages in a manner more acceptable to you than is found in the original texts, should be taught with them ?" This is what is prohibited by the law.\*—(P. 12.)

Mr Mann continues—" I have now received more than a thousand reports from the school committees of the respective towns (districts) in the state, detailing the condition and wants of the schools. Probably a majority of them were written by clergymen. In these reports, no subject has been more freely discussed than that of moral and religious instruction, and how far the latter might be carried without trenching upon the rights of individuals ; and with only two exceptions—less, therefore, than one in five hundred—the voice of these committees has been unanimous in favour of our constitution and laws on the subject of religious instruction, as they now stand. Every one of these reports, also, was accepted in open town meeting, and, therefore, must have received the sanction of the town whence it came."—(P. 13.)

This system, or one closely resembling it, has been found to be practicable, and to produce excellent effects, wherever it has been tried in the United States. Why should it not produce the same beneficial fruits in England and Scotland ?

In discussing the question of Government aid, let it ever be borne in mind, that the class most deeply interested is the

\* " The common School Controversy." Boston, U. S., 1844.

poor. The upper and middle, and better conditioned members of the lower classes, have sent, and will continue to send, their children to schools which meet their own approbation, and for which they are able to pay. It is only the poor who are the real objects of our present solicitude; and we have the choice only of one of three measures in regard to them. *First*, To leave them in their present ignorant condition; which nobody advocates. *Secondly*, To leave them to be scrambled for by the contending sects,\* who lie under no responsibility to perform the duty of educating them. Or, *thirdly*, To place their education under the protection of the Legislature, and of the general intelligence and philanthropy of the country. The last is the scheme which I prefer; and disguise it as they will, those who recommend the second, have at heart the interests of a sect more than those of the people.

Such a scheme as that which is now advocated, has everything to recommend it. It is the voluntary system preserving all its excellent elements, and freed from several serious imperfections. The benevolent and active members of every school district, naturally become the voluntary springs and managers of the whole educational machinery within it. They give life and vigour to its efforts, and control its every movement. They are enabled to do this with greatly increased effect, from the law placing funds at their disposal, arming them with official authority, and backing them by the moral influence of the *whole community*, instead of that of a single sect. Again, the exclusion of sectarian teaching operates most beneficially on the mind of every one who takes an interest in schools. It accustoms him to look on the points of faith and practice in which all Christian sects are agreed, instead of dwelling with concentrated attention on those which distinguish his sect from all others. And this promotes the growth of brotherly love and true religion. It leads the mind insensibly to perceive that Christianity consists rather in the points of faith

\* The Rev. Dr Alexander, in his speech delivered at a public meeting held in Edinburgh on 31st March 1847, to oppose the Minutes of Council Scheme, gave a graphic representation of this scramble, which was loudly cheered by his audience, consisting chiefly of Evangelical Dissenters. "There is," said he, "another thing which I do not like in this measure, which has not been dwelt upon this evening. It is this; that instead of giving us a scheme of national education which shall tend to merge our sectarian differences, and our sectarian prejudices, in our common interests, this measure is distinguished by nothing so much as being a contrivance, in my opinion, to deepen the animosity of sects, and to involve the country more than ever in all the fierce bitterness of sectarian strife."—"The consequence will be a continual striving amongst all the different sects to get hold of children, and to keep them in their schools when they are there; and, in short, to use all sorts of means in order to induce and tempt children to join one sect rather than another."

and practice in which all sects are agreed, than in those regarding which they differ.

We are told, however, by some able opponents of the educational scheme introduced by the orders of Council, that Government has no right to interfere with the secular instruction of the people, and that voluntary effort is adequate to accomplish all that is needed for the public welfare. In my late "Remarks on National Education," I endeavoured to shew that Government is not only entitled, but bound, to enable the people, by legislative aid, to organize their own wealth and intelligence for the establishment and maintenance of schools for universal instruction; and I now beg to add, that experience shews that legislative aid beats voluntary effort out and out in this good work. England has been left to voluntary effort for the education of her people from the foundation of her institutions, and what has been the result? Mr Horace Mann, in his Educational Tour, says, "England is the only one among the nations of Europe, conspicuous for its civilization and resources, which has not, and never has had, any system for the education of its people. *And it is the country where, incomparably beyond any other, the greatest and most appalling social contrast exists; where, in comparison with the intelligence, wealth, and refinement of what are called the higher classes, there is the most ignorance, poverty, and crime among the lower!* Owing to the inherent vice and selfishness of their system, or their no-system, there is no country in which so little is effected, compared with their expenditure of means; and what is done only tends to separate the different classes of society more and more widely from each other."

In Prussia and the United States, on the other hand, the education of the people has been conducted by legislative authority and aid. The proper way to judge of the merits of the different systems, is to select two nations in corresponding degrees of ignorance, and inquire within what time each had attained to a certain degree of morality, intelligence, and industry. Now, it is a fact, which all history supports, that in the beginning of the present century the common people (for it is to their condition that the controversy refers) of Prussia and Western Germany were many of them serfs, and most of them steeped to the core in ignorance, indolence, and vice, oppressed by unmitigated despotisms, and valued by their rulers chiefly as materials for war. They resembled the English common people in the reign of Queen Elizabeth. The English have enjoyed free institutions for 250 years, and during all that time the Voluntary principle

in education has been allowed to do its best to elevate their condition, unawed by deism and uninterrupted by foreign invasion. The liberation of the Prussian peasant from slavery, and the introduction of the national system of education, dates from 1807, but the latter did not come into full operation till ten years afterwards. One generation, therefore, has not yet entirely passed away since it was introduced. In thirty years the Prussian system has put a soul under the ribs of death, called into existence a national, intelligent, and energetic spirit, destroyed one-half of the remaining power of the Church of Rome, and extorted by moral force, without revolution or shedding one drop of blood, institutions more or less free, from all the sovereigns of Germany, except Austria! Can any one shew as much accomplished by the Voluntary principle in the same period, starting from the same zero of attainment in England?

Mr Mann sums up his description of the English "no system," and of the Prussian scheme, in the following words:—"Arrange," says he, "the most highly civilized and conspicuous nations in Europe in their due order of precedence as it regards the education of their people, and the kingdoms of Prussia and Saxony, together with several of the western and south-western states of the German confederation, would undoubtedly stand pre-eminent, both in regard to the quantity and quality of instruction. After these come Holland and Scotland." "The whole Prussian system," continues Mr Mann, "impressed me with a deep sense of the vast difference in the amount of general attainment and talent devoted to the cause of popular education in that country, as compared with any other country or state I had ever seen."—(Page 146.)

There is a great difference between the influence of the voluntary principle when applied to the support of churches and of schools for the poor. The object of the church is to provide means for securing the eternal salvation of the contributor and his family—a most momentous consideration to every reflecting man. It involves the selfish principles of his nature as well as his affections and his sense of religious duty. The school for the poor, on the other hand, addresses chiefly his moral and religious sentiments, leaving his self-interest far in the rear. Experience shews that these emotions do not suffice to induce the rich to provide sufficiently for the physical wants of the poor, and, in consequence, Parliament has enacted poor-laws. How, then, should we rely on them for providing for a less clamant mental destitution?

In supporting these views, I beg to be understood as leav-

ing the Scripture doctrines relating to eternity, altogether to clerical superintendence. The statements that the precepts of Christianity, in relation to human conduct in this world, are in harmony with, and supported by, the ordinary course of God's providence, and that they can never become practical until the reality of their being so is demonstrated to the understandings, and recommended to the moral and religious sentiments, of the people, can be objected to by those only who find a difficulty in reconciling their peculiar dogmas to such propositions. In the words of Archbishop Whately, "Revelation may be compared to a *telescope*, which brings within our view things beyond the reach of the naked eye; but which no more supersedes the use of eyes than revelation does the use of reason; and which, again, if it be a *good telescope*, does not distort or discolour such objects as do lie within the reach of unaided sight. Even so, Revelation, though going *beyond* what Reason could alone discover from a view of the created universe, will never *contradict* the perceived laws of that universe. A pretended revelation would be proved not to be a true one, if it were at *variance* with the laws by which the Maker of the universe governs it."—(*"Essay on Christian Self-Denial," and in other works*).

The conclusions which I draw from what has been stated, are the following:—That, in the present condition of sectarian religion, the Government is not justified in endowing all sects to teach conflicting creeds and catechisms to the young:—That the order of nature is of Divine institution, and calculated to serve as a guide to human conduct; and therefore should be taught to the young in the form of *secular instruction*, and its authority and lessons should be enforced by an appeal to their moral and religious sentiments:—That the practical precepts of Christianity harmonize with and are supported by the order of nature, and should therefore be taught along with natural science; but that all doctrines in which religious sects differ, (not being connected with nature, and not being essential portions of Christianity), should be excluded from national schools, and left to be taught by the parents and clergy of each sect to the children of its own communion, at separate hours and in separate apartments: And, finally, that National Education should be supported by a rate levied on school districts, but that the administration of the fund and of the school should be committed to the rate-payers of the district under proper regulations to be enacted by Parliament, and under Government inspection.

ON THE

# INTRODUCTION OF RELIGION

INTO

## COMMON SCHOOLS.

By ANDREW COMBE, M.D., &c.

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*(Extracted from his Life and Correspondence, page 501.)*

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“ CONSCIOUS of the immense power of the religious sentiments in the human mind, and of the impossibility of separating them without violence from their vital union with the moralities, I have all along felt that the plan of excluding religion from education was inherently a defective one, which could not continue to hold its place against the assaults of reason and truth. In the past position of the question, it was the best which could be followed, and was defensible as the smallest of several evils among which society was compelled to choose. As such I still advocate and defend it; but I think it important that it should be defended and advocated on its true grounds, and not as in itself proper and desirable. Instead, therefore, of recommending the separation of secular from religious instruction, as in themselves distinct, I would adopt the true grounds, and in answer to the wish of some to make all education religious, say, ‘ Yes, I agree with you entirely that all education must be based on religion, and that the authority of God should be recognised by us all as the only infallible standard in everything; but, that we may know what we are talking about, let us understand distinctly what each of us means by religion.’ Standing on such a basis, we cannot be shaken by either Jew or Gentile, Calvinist or Lutheran. Then comes the discussion, What is religion? A says it is a code embracing, suppose, ten principles in all. On examination, B, C, and D find that, say, *eight* of these refer to practical matters directly influencing conduct and character, and that they approve of them as true; but each affirms that the remaining *two* are church dogmas, untrue, dangerous to salvation, and deserving of all reprobation. For these B proposes to substitute other

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*Edinburgh : Maclachlan & Stewart. London : Simpkin, Marshall, & Co.*

*Price Two pence.*

two; but is, in his turn, voted wrong by A, C, and D. The latter two follow with *their* substitutes, and are each condemned; all, meanwhile, admitting the eight practical principles to be sound and necessary to happiness. Here it is plain, that if the children of all are to attend the same school, a compromise must take place; and, while all agree to leave out *the two* articles, they may cordially unite in teaching the remaining eight, and in endeavouring to insure their recognition by the pupils as their best guides, and as indispensable links in that religious chain which binds them to their Creator, and imposes upon them the primary duty of seeking to know and do His will in all things. This done, let the parents and priests teach what they deem truth on the two disputed points, *in addition to the religious principles thus daily and hourly inculcated and brought into practice among both teachers and pupils.*

"It may be said that this is what is done already. But there is a difference. At present the line of separation between religious and secular education is drawn sharp, and, in the school, the pupil is not taught that the natural arrangements he studies or sees in play around him, have been devised by Divine Wisdom for his guidance and happiness, nor are his feelings interested in securing obedience and gratitude to God as a moral and religious duty in return. The arrangements of nature are taught simply as 'knowledge' coming from nobody, and leading only to worldly advantage, not personal happiness. Religion, again, is taught not as the complement of that knowledge, leading the mind back to God, and bearing at every moment on our welfare, but as a something apart, which does not dovetail with our conduct or duties. In short, the prominent idea in the minds of both teachers and taught, under the present national system, is, that secular knowledge and religion are distinct, and have no natural connection; and hence neither exercises its legitimate influence.

"But the result will be different if it be recognised universally that, taught as it ought to be, all the knowledge conveyed is *inherently religious*, and calculated, *necessarily*, to bring the creature and the Creator into more immediate contact, and to develop feelings of love, admiration, reverence, and submission to the Divine will. Let it be proclaimed and understood that the inevitable tendency of knowledge is to lead the mind to the Creator, and that wherever it is taught without this result, there is and must be a defect of method, or a fault in the teacher, which ought instantly to be remedied. Let it be proclaimed to the four corners of the earth, that education, rightly conducted, is religious in the highest degree, although embracing none of the tenets peculiar to sects or parties, and that a 'godless education' is a contradiction and a moral impossibility. It would be as

logical to speak of a solar light without a sun. Every truth, moral, physical, or religious, springs from and leads directly to God ; and no truth can be taught, the legitimate tendency of which is to turn us away from God.

"Instead, therefore, of giving in to the opponents of national education, and admitting a real separation between secular and religious knowledge, I would proclaim it as the highest recommendation of secular knowledge, that it is *inherently religious*, and that the opponents are inflicting an enormous evil on society by preventing philosophers and teachers from studying and expounding its religious bearings. If this were done, it would lay the odium at the right door, and shew that the sticklers for exclusive church-education are the real authors of 'a gigantic scheme of godless education,' in attaching such importance to their own peculiar tenets on certain abstract points, that rather than yield the right of conscience to others, they are willing to consign society at large to an absolute ignorance of the ways of God as exhibited in the world in which He has placed them, and to all the misery, temporal or eternal, certain to result from that ignorance.

"It must be admitted that, *as at present taught*, much of our knowledge is not religious ; but this is an unnatural and avoidable, not a necessary evil, and it has arisen, in a great measure, from the denunciations of the party now opposed to the diffusion of education. By stigmatizing as infidel and godless whatever knowledge was not conjoined with their own peculiar creed, they deterred men from touching upon or following out the religious aspects of knowledge ; and if they be allowed to maintain longer the wall of separation they have erected, the result will continue to be the same as in times past. The only way to meet them, is to turn the tables and *denounce them as the obstructers and enemies of religious education*, because they refuse to allow any exposition of the Divine wisdom, and arrangements, and will, which does not also assume the equal infallibility and importance of *their* interpretation of His written wisdom and ways. This is a tyranny to which human reason cannot continue to submit, and the sooner they are put on the defensive the better.

"Science is, in its very essence, so inherently religious, and leads back so directly to God at every step, and to His will as the rule of our happiness, that nothing would be easier, or more delightful, or more practically improving to human character and conduct, than to exhibit even its minutest details as the emanations of the Divine wisdom, and their indications as those of the Divine will for our guidance. In a well-conducted school-room or college-hall, the religious sentiments might be nourished with the choicest food *pari passu* with every advance in intellectual knowledge. The constant practice of



exhibiting the Deity in every arrangement, would cultivate *habitually* that devotional reverence and obedience to His will which are now inculcated only at stated times, and apart from everything naturally calculated to excite them. So far from education or knowledge proving hostile to the growth of religion in the minds of the young, they would in truth constitute its most solid foundation, and best prepare the soil for the seed to be afterwards sown by the parent and priest, who would then receive from school a really religious child fashioned to their hands, instead of being, as now, presented only with the stony soil and the rebellious heart.

"The practical inference from all this is, that while we continue to advocate the exclusion of *sectarianism* of every hue from our educational institutions, we are so far from wishing to exclude religion itself, that our chief desire is to see all education rendered *much more religious* than it has ever been, or ever can be, under the present system. To make religion bear its proper fruit, it must become a part and parcel of everyday life: It must, in fact, be mixed up with all we think, feel, and do; and if science were taught as it ought to be, it would be felt to lead to this, not only without effort, but necessarily. God is the creator and arranger of all things; and wherever we point out a use and pre-arranged design, we necessarily point to Him. If we can then shew that the design has a *benevolent* purpose, and that its neglect leads to suffering, we thereby necessarily exhibit the loving-kindness of God, and recognise it even in our suffering. If we next point out harmony between apparently unconnected relations, and shew how all bear on one common end, we necessarily give evidence of a wisdom, omniscience, and power, calculated to gratify, in the highest degree, our sentiments of wonder, reverence, and admiration. If we familiarise the mind with the order and laws of God's providence, and their beneficent ends as rules for our conduct, the very reverence thereby excited will prompt to submission—systematic submission, because cheerful and confiding—to His will as our surest trust. Here, then, is the legitimate field for the daily, hourly, and unremitting exercise of the religious feelings in the ordinary life of man, and for the exercise of that true, vivifying, practical religion which sees God in all things, lives in His presence, and delights in fulfilling His will.

"The slender influence of sectarian religion in regulating the daily conduct of civilized man, and the exclusiveness with which its manifestations are reserved for stated times and seasons, together with the small progress which it has made in leavening the mass, furnish ample evidence that some grievous error deprives it of its legitimate power, and limits its diffusion. The more narrowly we examine the

matter, the more evident will it become that the sticklers for a sectarian education, as the only one allowable, are the great stumbling-blocks in the way of true religion, and that the ignorance which they cherish is the grand source of that apathy and irreligion against which they clamour so lustily. Science by them is reviled and despised as merely human knowledge. The epithet is ludicrously false and illogical. *All knowledge is divine.* All knowledge refers to God, or to God's doings. There is no such thing as 'human' knowledge in the proper sense of the word. What is true is of God, whether it relate to science or religion. What is not true is error, whether espoused by infidel or priest, Lutheran or Catholic, Mahomedan or Brahmin. Accurate knowledge (*and there is none other*) is not of human but of Divine origin. If man *invents* notions and styles them knowledge, that does not give them the character of real knowledge. They remain human inventions or errors as much as before. But whenever man discovers a *truth* either in physics or philosophy, either by accident or by design, he is certain that God is its author, and that if seen in its true relations to himself and to creation, it will be found characterised by the wisdom, power, and goodness of its divine source. Nothing can shake him in this belief. Stigmatize him as you will, his faith will remain firm and unhesitating, because he knows the attributes of God to be unchangeable and eternal. 'Godless education,' forsooth! It is an absolute contradiction in terms; and those who obstruct the progress of religion by such an outcry have much to answer for, and little know the evil they are doing.

"In times past man has erred by acting regardlessly of God's will and plans, and his reward has been misery and crime. Instead of attempting to create and legislate, let him study and understand what God has created, and the laws already imprinted *by Him* on all that exists. If his health is to be promoted, let him take for his guidance the arrangements made by God for the healthy action of his various functions, and *act in the closest accordance with their dictates.* If he has a social duty to perform, let him consult the moral law imprinted on his nature by the Deity, and copied into the records of Christianity. If he wishes even to brew or to bake with profit and success, let him study the laws of fermentation arranged by Divine Wisdom, and conform to the conditions which they impose as indispensable for securing the result. If he wishes to provide the means of travelling with speed and safety, let him study the laws of gravitation and of motion, and those which regulate the production and expansion of steam, and adapt his machinery to fulfil the conditions imposed upon their use by the Deity himself. If he does not, he will either fail or suffer. If he does, he will move along with speed and safety. If he wishes to have

his coat dyed of a fast colour, let him study the qualities which God has conferred on colouring objects, and the relations in which they stand to the properties of the wool, and conform to their indications, and he will have the guarantee of Omniscience for his success. In short, he cannot stir in the performance of any act or duty without either a direct or implied reference to the harmony and unchangeableness of the Divine laws. From thoughtlessness and an imperfect education, he may neglect looking deeper than the surface, and see only man and man's inventions, where, in truth, God reigns supreme and alone, hidden from our view only by the ignorance of man. Rightly directed, then, education, instead of being 'godless,' would confer its chief benefits by removing the curtain which hides God from our view. Instead of keeping Him, as an awful abstraction, in a background too remote from the ordinary affairs of life for either clear perception or wholesome influence, as is at present done by the sectarian religionist, science and education would reveal Him to the human understanding and feelings as an ever-present, ever-acting Being, whom it was no longer possible to forget, and whose care and watchfulness over us are equalled only by His attributes of benevolence and justice.

"Such, then, is the direct and legitimate tendency of that science and knowledge so unjustly stigmatized as 'human,' and 'secular,' and 'godless!' And why so stigmatized? Merely because its cultivators and teachers refuse to mix up with it certain dogmas of an abstract nature, on which the greatest differences of opinion prevail among the numerous sects which constitute the religious world!! The truths on which all agree—truths proceeding from, and leading directly to God as their author and source, and replete with blessings to man—are to be deliberately excluded and denounced, and the disputed and abstract dogmas introduced in their place! What can be the results of such a course of proceeding? If the tree is to be known by its fruit, as the Scriptures say, we can have very little hesitation in declaring the existing tree of sectarianism to be not worth the cultivation; for the burden of the complaints of all so-called evangelical sects is, that, in spite of their utmost exertions, the cause of religion retrogrades—so much so, that, according to Dr. Chalmers's estimate, even in our highly-civilized communities, not one in twenty, and, in many instances, not one in ninety or a hundred, lives under its influence, or knows what it is. Admit this picture to be correct in its main features, does it not point to some serious error, which silently undermines our utmost exertions? And if so, why persevere blindly in the same course, and obstinately refuse to tread another and more direct, though hitherto neglected, path to the same living and true God, whom we all seek and profess to adore and obey?

"It may be said that, *as now conducted*, education, when not accompanied by a creed, does not lead to God. That it does not in some schools, is true; and that in none does it go nearly so far in this direction as it might and ought to do, is also true. But this defect has arisen in a great measure from the very prohibition attempted to be enforced of giving education without a creed; and it admits of an easy remedy the moment the prohibition shall be removed. Let it once be known that doctrinal creeds are no longer to be taught in schools as the condition of obtaining general education; but that, on the other hand, an accurate and extensive knowledge of the laws of God, as exhibited in creation, and as regulating man's whole existence on earth, will be considered indispensable in the teacher, and that his chief duty will consist in impressing on his pupils the living conviction that they can be happy in this world only in proportion as they act in accordance with these laws, and that it is God and not man who arranges and upholds the moral laws under which society exists; and then his task will become at once more pleasing and more successful, and every day will add to the facilities and aids which he will meet with in fulfilling it. Education will then be both moral and religious in its every phase; and its influence on conduct, now so small, will every day become more visible, because backed by the Divine authority. Education thus conducted would become the groundwork of that later and more practical education which is now acquired in the actual business of life, and compared with which our *present* school-education avowedly bears a very small value.

"To insist on connecting dogmas about the corruption of human nature, the Trinity, and the atonement, with the knowledge of external creation, is to insist on mixing up matters which have no natural connection or affinity, and which, consequently, can never be made to assimilate. Let it be assumed that man has fallen from his original condition, and that his nature is corrupt, the great fact remains, that *the world was created and received its present constitution from God before man fell*. Whatever may have happened to man, the laws of the universe were not changed. The heavenly bodies moved in their orbits in obedience to the same forces which still operate. In our own globe, we can demonstrate the present operation of the same physical laws which were in action thousands or millions of years before man was called into existence. It is worse than folly, it is impiety and rebellion against the eternal God, to say that a knowledge of His works shall not be communicated except in conjunction with a disputed creed, which does not and cannot change their nature; and yet this is what must happen if the opponents of national education have their way. The Christian revelation does not abrogate or su-

## 8 ON INTRODUCING RELIGION INTO COMMON SCHOOLS.

persede the pre-existing order of Nature. On the contrary, it rests upon it as the only basis on which the superstructure of revelation can be made to stand; and therefore the more clearly the order of Nature is expounded, the more easily will the true bearings of Christianity be appreciated, and its principles carried into practice. To the orang-outang or the monkey, revelation is without meaning or influence, because in *their* nature it can find no resting-place, and no point of contact. To man it would be equally valueless, if its doctrines were not in harmony with his nature and constitution. And therefore, even if education were to be confined solely to religious instruction, the most successful way would still be to begin by cultivating and developing the groundwork or soil of natural religion, in which alone revelation can take root.

“ If neither the state nor the people are to be allowed to teach natural religion, and make use of it in promoting good conduct, then it matters little who has the charge of educating the people in our schools. So long as education is confined to reading, writing, arithmetic, and the communication of the elements of knowledge without constant reference to its uses and its relation to its Divine Author, it will prove both barren and godless, whether accompanied by a creed or not. The only education worth having is that which is to influence conduct, and thereby improve our condition. If such education cannot be taught to the young, the more urgent the need to begin by enlightening the old who direct the young. If prohibited from teaching the children, let us begin by educating their parents. By perseverance we may produce an impression on their common sense in the course of time, and thus at last get access to schools. As yet, natural religion has never been taught to either old or young, and, therefore, it cannot be said to have proved ineffective. No single work exists, so far as I know, having for its aim to expound the close relation subsisting between natural religion and human improvement. The existence and operation of natural laws have been demonstrated, *but not their applications to, and bearings on, daily and hourly conduct.* Veneration has been hitherto supposed to have its true scope in the adoration of the Deity; but its more important and equally elevated use in prompting to willing submission to His laws and authority as an earnest of our sincerity, has been almost overlooked. The religious and moral feelings have never been made acquainted with their own intimate and indissoluble union, or trained to act with the intellect in studying and obeying the natural laws.”

**OUTLINES**  
**OF**  
**PHRENOLOGY.**

**BY**  
**GEORGE COMBE.**

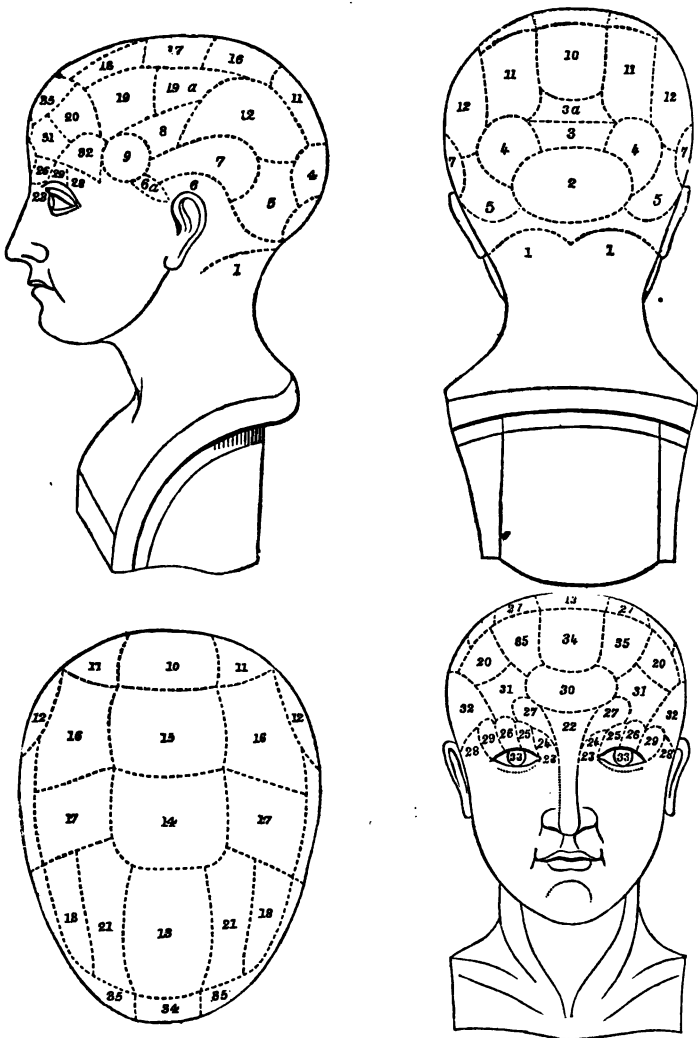
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**RES NON VERBA QUESO.**

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**NAMES OF THE PHRENOLOGICAL ORGANS,**  
REFERRING TO THE FIGURES INDICATING THEIR RELATIVE POSITION.

**AFFECTIVE.**

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# OUTLINES

OF

## PHRENOLOGY.

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### INTRODUCTORY OBSERVATIONS.

PHRENOLOGY (derived from two Greek words, *Phren*, mind, and *Logos*, discourse) treats of the faculties of the Human Mind, and of the organs by means of which they manifest themselves; but it does not enable us to predict actions.

Dr Gall, a physician of Vienna, is the founder of the system. He was born at Tiefenbrunn, in Suabia, on 9th March 1757, and died at Paris on 22d August 1828. From an early age he was given to observation, and was struck with the fact, that each of his brothers and sisters, companions in play, and schoolfellows, was distinguished from other individuals by some peculiarity of talent or disposition.

The scholars with whom Dr Gall had the greatest difficulty in competing, were those who learned by heart with great facility; and such individuals frequently gained from him by their repetitions the places which he had won by the merit of his original compositions. He observed that his schoolfellows, so gifted, possessed prominent eyes. When he entered the University, he directed his attention, from the first, to the students whose eyes were of this description, and found that they all excelled in getting rapidly by heart, and giving correct recitations, although many of them were by no means distinguished in point of general talent. Dr Gall could not believe that the coincidence of the two circumstances was entirely accidental. From this period, therefore, he suspected that they stood in an important relation to each other. After much reflection, he conceived, that if memory for words was indicated by an external sign, the same might be the case with the other intellectual powers; and thereafter, all individuals distinguished by any remarkable faculty became the objects of his attention. By degrees, he conceived himself to have found external characteristics, which indicated a decided disposition for painting, music, and the mechanical arts. He became acquainted also with some individuals remarkable for the determination of their character, and he observed a particular part of their heads to be very largely developed. This fact first suggested to him the idea of looking to the head for signs of the moral sentiments. But in making these observations, he never conceived, for a moment, that the *skull* was the cause of the different talents, as has been erroneously represented; for, from the first, he referred the influence, whatever it was, to the brain.



Dr Gall, therefore, abandoning every theory and preconceived opinion, gave himself up entirely to the observation of nature. Being a friend to Dr Nord, Physician to a Lunatic Asylum in Vienna, he had opportunities, of which he availed himself, of making observations on the insane. He visited prisons, and resorted to schools; he was introduced to the courts of princes, to colleges, and the seats of justice; and wherever he heard of an individual distinguished in any particular way, either by remarkable endowment or deficiency, he observed and studied the development of his head. In this manner, by an almost imperceptible induction, he conceived himself warranted in believing that particular mental powers are indicated by particular configurations of the head.

In every instance, when an individual, whose head he had observed while alive, happened to die, he used every means to be permitted to examine the brain, and frequently succeeded. He found as a general fact, that, on removal of the skull, the brain, covered by the dura mater, presented a form corresponding to that which the skull had exhibited in life.

The successive steps by which Dr Gall proceeded in his discoveries are particularly deserving of attention. He did not, as many have imagined, first dissect the brain, and pretend by that means to discover the seats of the mental powers; neither did he, as others have conceived, first map out the skull into various compartments, and assign a faculty to each, according as his imagination led him to conceive the place appropriate to the power. On the contrary, he first observed a concomitance betwixt particular talents and dispositions, and particular forms of the head; he next ascertained, by removal of the skull, that the figure and size of individual parts of the brain are indicated by these external forms; and it was only after these facts were determined, that the brain was minutely dissected, and light thrown upon its structure.

At Vienna, in 1796, Dr Gall for the first time delivered lectures on his system.

In 1800, Dr J. G. Spurzheim (born at Longuich, near Trèves, on the Moselle, 31st December 1776) began the study of Phrenology under him, having in that year assisted, for the first time, at his lectures. In 1804, he was associated with him in his labours; and after that period he not only added valuable discoveries to those of Dr Gall in the anatomy and physiology of the brain, but assisted in forming the truths brought to light by their joint observations into a beautiful and interesting system of mental philosophy. In Britain, we are indebted chiefly to his personal exertions and printed works for a knowledge of the science. Dr Spurzheim died at Boston, United States, on 10th November 1832.

An outline of their philosophy will be given in the following pages.

A mental organ is a material instrument, by means of which the mind, in this life, enters into particular states, active and passive.

The mind is regarded as simple, and its substance or essence is unknown. It is furnished by nature with highly interesting susceptibilities, and a vast apparatus of mental organs, for enabling it to manifest its energies, and enter into different states. Thus, when aided by optic and auditory nerves, the mind sees and hears; when assisted by an organ of Cautiousness, it feels fear; by an organ of Causality, it reasons. Its power of seeing depends on the perfection of the eyes and the optic nerves; and in like manner its power of experiencing the emotion of beauty is in

proportion to the perfection of the organ of Ideality. The optic nerve, when stimulated by light, induces the active state, called Seeing, in the mind ; and the organ of Benevolence, excited by an object in distress, produces the mental state called Compassion.

States of mind are either simple or complex. A simple state results from the action of a single organ on the mind ; Seeing is a simple state arising from the activity of the optic nerves. Complex states are produced when the mind is acted upon by several organs at the same time. Thus, suppose that an insult is offered to an individual in an august assembly, Self-Esteem will produce the feeling of offended dignity ; and Destructiveness will give the desire of revenge ; Veneration, however, will call up the emotion of respect or awe for the personages present ; and Cautiousness and Love of Approbation will give rise to the fear of offending them ; and all these contending emotions may co-exist. Hence, the mind, simple in itself, may, by means of a plurality of organs, exist in a state of complex relations to other objects.\*

Physiologists, nearly without any exception, now treat of the brain as the material instrument on which the manifestations of the mind depend.

The next enquiry is, whether it is a single organ, the *whole* of which is employed in *every* act of the mind, or an aggregate of parts, each serving as the organ of a particular mental power ?

The following considerations lead us to regard the brain as an aggregate of distinct organs :—1. The mental faculties appear and come to maturity successively, just as in some animals hearing precedes sight. 2. Genius is generally partial : a man is often an excellent musician, who has no talent for painting or metaphysics. 3. In dreaming, one or more faculties are awake, while others are asleep ; and if all acted by means of one organ, they could not possibly be in different states at the same time. 4. Idiocy and insanity are generally partial, which could not be, if all the faculties depended on one organ. 5. Partial injuries of the brain do not equally affect all the mental powers ; which they would do, if the organ of the mind were single. These considerations have led anatomists, from the days of Galen downwards, to regard the brain as a congeries of organs. So early as 1560, Dolci, an Italian author, gave a drawing of a head, with organs delineated on it for different faculties ; and he was followed by many other writers. They failed in their attempts to locate the faculties in consequence of taking their own conceptions of fitness, and not actual observation, for their guide : Dr Gall trusted to observation alone. It is a principle in physiology, that *dissection* alone does not reveal the *function* of any organ. The organ must be observed when acting. It is a fact in mental philosophy that we have no consciousness even of the existence of mental organs. Dr Gall, therefore, in order to discover the functions of the different parts of the brain, did not rely on dissection, or on reflection on consciousness, but simply compared the size of cerebral parts with the energy of mental manifestations.

Physiological authors in general agree that the brain gives the form to the skull. Cuvier, Monro, Blumenbach, Lawrence, and many other anatomists, state this. The outer surface of the skull corresponds to the inner surface, and represents its form accurately ; under the following exceptions.

\* This doctrine was first clearly elucidated by the Rev. Dr David Welsh, in his excellent *Life of the late Dr Thomas Brown*, Note N., p. 619.

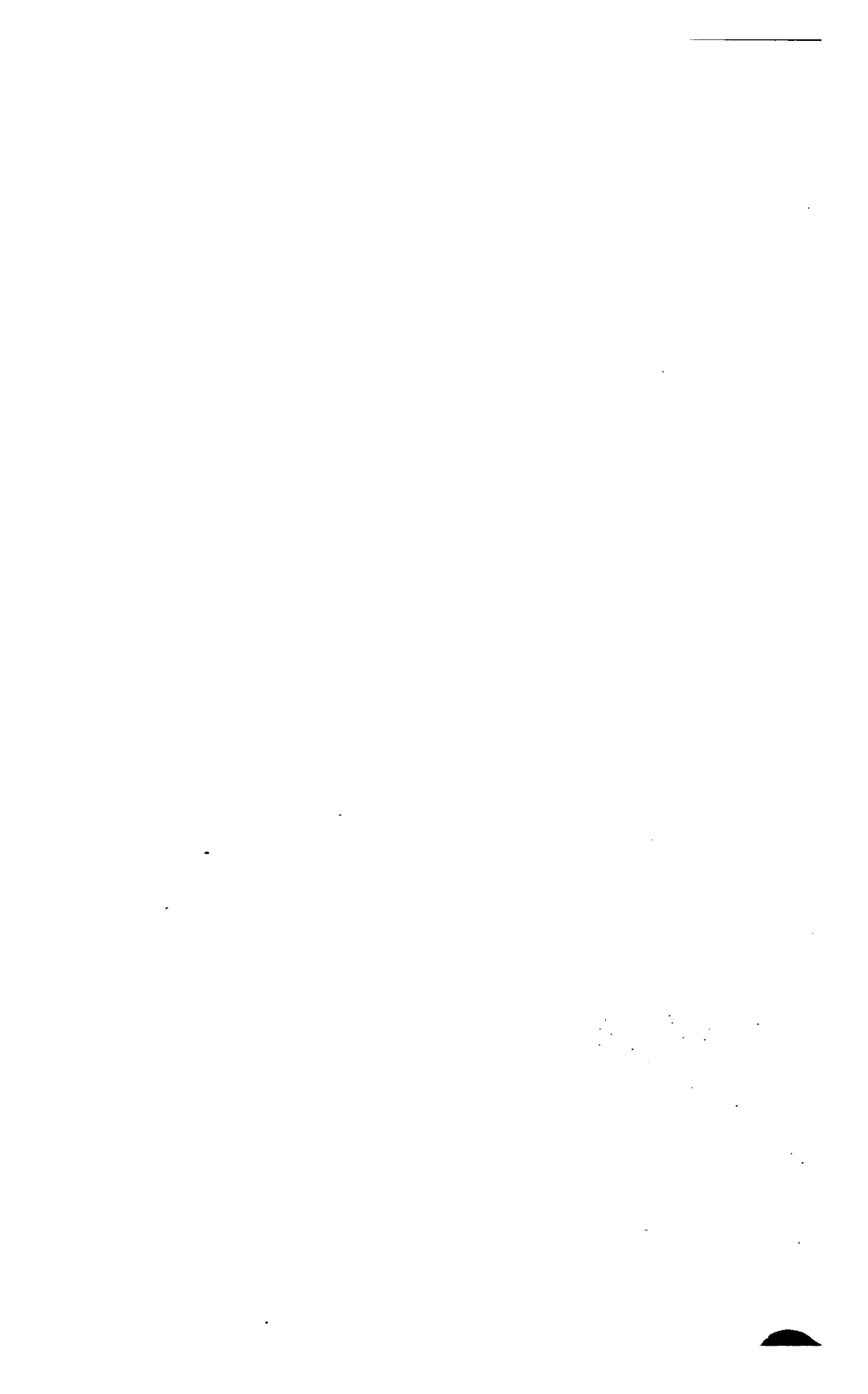
After twelve years of age a separation generally takes place between the inner and outer surfaces (in anatomical language called tables) of the skull, which extends under the spaces marked 22, 23, 24, and 25, on the Plate. The hole between the two surfaces at these parts is called the frontal sinus, and its existence throws a degree of uncertainty over the development of the organs indicated by these numbers. When the sinus exists, there may be an outward rising of the skull at these places without a corresponding development of brain below, and, in consequence, the manifestations of the faculties will not be so powerful as the external elevation indicates. But if the skull at these places be depressed, the brain will be found little developed there, and the corresponding faculties will invariably be feebly manifested. It is, therefore, only in cases of enlargement that the sinus causes uncertainty, which is, in general, confined to the organs here enumerated.

After the middle period of life a general decay of the body begins to take place, in which the brain participates. It diminishes in size, and sometimes the inner surface of the skull follows the shrinking faster than the outer surface, causing either an increase of the spongy texture between them, or a general thickening of the skull. In disease, the same thing often happens. In other cases, the skull becomes thinner in old age. For these reasons, phrenologists look for demonstrative evidence in *healthy individuals, not beyond the middle period of life*. In such persons, the divergence from parallelism between the outer and inner surfaces of the skull does not, in general, exceed one-eighth part of an inch; whereas the differences of size in particular parts of heads, otherwise equal in general dimensions, extend occasionally to one inch and a quarter, as may be seen by contrasting the busts of Mr Joseph Hume and Dr Chalmers, in the region of Ideality.

Common observation warrants us in believing that human dispositions and talents may be distinguished. One man is remarkable for pride, another for vanity, a third for avarice, a fourth for generosity, a fifth for musical talents, a sixth for skill in painting, and so on. These dispositions and talents, therefore, may be compared with development of brain.

These positions being granted, the *possibility* of Dr Gall's discoveries becomes evident, and the question resolves itself into one merely of evidence. As human beings every where exist and manifest their faculties, the means of proving or disproving the truth of what Dr Gall has reported, are within the reach of every person who chooses to qualify himself by study for making observations and drawing conclusions. Phrenologists, therefore, do not rely on recorded cases as evidence. They adduce these as illustrations and examples merely, and refer every student to nature, stating that philosophical conviction can be founded only on individual observation.

The brain differs in different individuals, not in size merely, but in quality or constitution; and this fact must always be attended to. If in any one person we compare the manifestations of the organs which are small with those of the organs which are large, the power of manifestation will, as a general rule, be found greatest in the latter, and that in proportion to their size; because, in general, the whole of a man's brain is of the same quality or constitution, and fair scope is given to the influence of size. But if we compare the manifestations of any particular organ in John and in James, the size may be the same; yet James





LYMPHATIC



SANGUINE



BILIOUS



NERVOUS

may manifest the faculty with the greater vigour. This may arise from the quality or constitution of James's brain being superior, or from his having exercised the organ in question; whereas John had left it in dormancy. If we compare James's organs with each other, and John's organs with each other, we shall find that the power of manifestation will, in general, correspond to their respective dimensions; or if we compare James's brain with that of another individual who has the same constitution, and has received the same training, we shall find the effects of size appearing invariably the same. The correct proposition, therefore, is, that *other conditions being equal, or ceteris paribus*, size is a measure of power; and this principle also is admitted by physiologists. Cuvier, speaking of the brain, says, that "*comparative anatomy offers another confirmation of the constant proportion between the size of these lobes and the degree of intelligence of animals.*"

The quality or constitution of the brain partakes of that of the body generally, and this is indicated by the temperaments. There are four temperaments. First, the *lymphatic*, distinguishable by roundness and softness of the muscular system, fair hair, a pale clear skin, and a hazy sleepy eye. It is accompanied by slow and languid action in the vital organs, including the brain. The second, or *sanguine* temperament, is indicated by well defined forms, tolerable firmness of flesh, light hair, inclining to chesnut, blue eyes, a fair complexion, with ruddiness of countenance. It is attended by great activity in the bloodvessels, and fondness for exercise; and the brain partakes in the general vivacity of the system. The third, or *bilious* temperament, does not mean a temperament particularly liable to the *disease* bile, as the name might indicate, but a certain constitution of body, which is recognised by black hair, dark skin, moderate fulness and much firmness of flesh, with harshly expressed outlines of the person. The functions partake of great energy, which extends to the brain. The fourth, or *nervous* temperament, is recognised by fine thin hair, thin skin, small thin muscles, quickness in muscular motion, paleness of countenance, and often delicate health. The whole nervous system, including the brain, is predominantly active, and the mental manifestations are proportionally vivacious.

In comparing different brains, we should always attend to the temperaments, because two brains may be of the same size; but if the one be of the lymphatic, and the other of the nervous temperament, there will be great difference in the powers of manifesting the faculties.

Education or exercise increases the activity of the brain, and should also be taken into account in comparing different brains. If at first two individuals possessed brains of the same size, form, and temperament, but if the one wrought in a coal-pit, and the other made speeches in Westminster Hall and Parliament, until they had respectively attained fifty years of age, the power of manifesting the faculties would be much greater in the latter. Or, if in two individuals the size of the organs of the propensities was the same, but if in the one the moral organs were large, so that they had controlled, during life, the action of the propensities, and if in the other the moral organs were small, at fifty years of age the propensities of the former would have lost much power by constant restraint, whereas those of the latter would continue to act with greater energy, from having been habitually indulged. The effects of education, however, are limited by the size of the organs. When these are very defective, education is impossible; when they are large, and the temperament active, the individual educates himself.

The proper way to test the effects of size, is to compare brains agreeing in temperament and exercise, but differing in size, and then the power of manifestation will be found to bear a uniform proportion to the size of the organ.

Several organs acting in *combination*, assist each other in producing a general result ; thus, in playing on a musical instrument, the organ of Time co-operates with the organ of Tune ; and the music will be good or bad, in proportion to the perfection of *both* organs in *constitution, size, and exercise*. If Time were small, and Tune large, the music would be greatly inferior to what it would be if both organs were *full* ; that is, neither of them large, but neither of them small. An individual having Benevolence, Veneration, and Conscientiousness all *full*, will manifest the Christian virtues more perfectly and consistently, than if he had Benevolence and Veneration large, and Conscientiousness small ; because these virtues are a compound result of all these organs. In these combined actions, each organ contributes a share, corresponding to its constitution, size, and exercise, towards producing the general effect ; and if one be very deficient, the quality which it manifests is weakly exhibited, its feebleness not being compensated by the strength of the others.

The term Faculty is used to express a particular power, which the mind (simple in itself) exercises by means of particular organs. It is applied to the feelings as well as to the intellect. Thus, the faculty of Causality means the power of tracing the relation of cause and effect, which the mind manifests by means of the organ of Causality : the faculty of Benevolence means the power of feeling kindly and compassionately, which the mind manifests by means of the organ of Benevolence.

A faculty is admitted to be primitive.

1. Which exists in one class of animals, and not in another ;
2. Which varies in the two sexes of the same species ;
3. Which is not proportionate to the other faculties of the same individual ;
4. Which does not manifest itself simultaneously with the other faculties ; that is, which appears and disappears earlier or later in life than other faculties ;
5. Which may act or rest singly ;
6. Which is propagated in a distinct manner from parents to children ; and,
7. Which may simply preserve its proper state of health or disease.

It is not necessary, although advantageous, to become acquainted with the anatomy of the brain in studying Phrenology. The brain consists of two hemispheres, separated by a strong membrane called the Falciiform process of the dura mater. Each hemisphere is an aggregate of parts, and each part serves to manifest a particular mental faculty. The two hemispheres, in general, correspond in form and functions ; and hence there are two organs for each faculty, one situated in each hemisphere. The cerebellum in man is situated below the brain. A thick membrane, named the Tentorium, separates the two ; but they are both connected with the medulla oblongata, or top of the spinal marrow, and through it with each other. The brain is a web of nervous matter, folded up (the folds being called convolutions), in order to pack as much surface in as small a space as possible. The external surface is of a greyish-brown colour, and is called cineritious, from its resemblance in colour to ashes : the power of mental manifestation is in proportion (*cæteris paribus*) to

the extent and thickness of this portion of the brain. The cineritious matter is brought into connection with the spinal marrow (which manifests *sensation and motion*) by means of a white fibrous matter called the medullary substance.

Each organ consists of a portion of cineritious substance, lying at the surface, and of white fibres, connecting it with the spinal marrow and with other parts of the brain. Thus, each organ extends from the medulla oblongata, or top of the spinal marrow, corresponding nearly to the hole of the ear, to the surface of the brain or cerebellum; and every individual possesses all the organs in a greater or less degree. No distinct lines of demarcation between the organs have yet been discovered in the brain; but neither have such lines been traced between the column for motion, and that for sensation or feeling, in the spinal marrow, which nevertheless are now generally admitted by physiologists to be distinct. Each organ, when predominantly large, gives to the skull an appearance like that represented in the bust, so that the forms are essentially representations of nature, and not arbitrary. The brain is soft, and when the skull is opened, its own pliability, or the pressure of plaster or other substances applied to it, removes the forms which the organs presented in life. The convolutions, however, differ in their size and appearance, and in the direction in which they lie, so that no good observer acquainted with the anatomy and functions of the brain, could have any difficulty in distinguishing an organ of the propensities or sentiments from an organ of intellect, or *vice versa*, although presented separately.

When the two organs of a faculty lie in parts of the hemispheres which touch each other, they are both included in one delineation (Benevolence and Veneration are examples); but there are two organs to these and all other faculties, except the propensity of Amativeness. To save circumlocution, the expression "*organ*" of a faculty will be frequently used, but both organs are meant.

The size of an organ is estimated by its length and breadth. Its breadth is indicated by its expansion at the surface. The student should observe the *size*, and not the mere *prominence* of the organs.

There are several convolutions, between the hemispheres and at the base of the brain, the functions of which are not ascertained. It has been objected that the mental manifestations which we ascribe to particular organs may proceed from them and the unknown organs acting in combination, and that, therefore, the functions of no part can be ascertained until we know the functions of the whole brain. The answer to this is—that each organ uniformly performs its own functions, even when acting along with others. The organ of Tune combined with Veneration, may produce solemn hymns,—and with Alimentiveness, bacchanalian songs; but in either case it produces only music. The direction may be modified in consequence of the organs with which it is combined, but the essential function is never changed.

#### DIVISION AND CLASSIFICATION.

The mental faculties are divided into two ORDERS,—the AFFECTIVE and INTELLECTUAL faculties: These again are divided into GENERA; the former into two,—the *Propensities* and the *Sentiments*; and the latter into three,—the *External Senses*, and the *Perceptive and Reflective Faculties*. This classification, however, is by no means perfect.



## ORDER I. FEELINGS.

## GENUS I. PROPENSITIES.

The faculties falling under this genus do not form ideas ; their sole function is to produce a propensity of a specific kind. These faculties are common to Man with Animals.

## 1. AMATIVENESS.

The cerebellum is the *organ* of this propensity. Immediately behind, and a little below, the external opening of the ear, two bony prominences may be felt, called the mastoid processes. The cerebellum lies between them and the projecting point in the middle of the transverse ridge of the occipital bone. The size is indicated during life by the thickness of the neck at these parts ; or by the swelling downwards of the *fossæ* of the occipital bone, which may be felt during life, by pressing the fingers firmly on the top of the neck. The *faculty* gives rise to the sexual feeling. In new-born children, the cerebellum is the least developed of all the cerebral parts. It is to the brain as one to thirteen or fifteen, and in adults as one to six, seven, or eight. It attains its full size from eighteen to twenty-six. It is less in females, in general, than in males. In old age it frequently diminishes. There is no constant proportion betwixt the brain and the cerebellum in all individuals, just as there is no invariable proportion betwixt the feeling and the other powers of the mind. In the casts of Mitchell and Dean it is very large ; and in Dr Hette very small. —This organ and faculty are established.

## 2. PHILOPROGENITIVENESS.

The *organ* is situated above the upper part of the cerebellum, between which and it there is a small space occupied by the membrane called the *tentorium* : The organ corresponds to the protuberance of the occiput. When it is large, and No. 1. moderate, it gives a drooping appearance to the hind part of the head.

Large Philoprogenitiveness.



Small Philoprogenitiveness.



The *faculty* produces the instinctive love of young in general. This feeling is distinct from Benevolence ; for we frequently find it strong in selfish individuals, who manifest no compassionate feeling towards adults. It chiefly supports the mother in her toils, and renders delightful the cares of rearing a helpless offspring. When abused it leads to pampering and spoiling children. The organ is larger in the female in general than in the male. It is large in the Hindoo, Negro, Esquimaux, Ceylonese, and Carib skulls. Dr Vimont has stated some observations which indicate that part of the convolutions now included in Philoprogenitiveness, where it joins Adhesiveness and Combativeness, are distinct organs, giving the tendency to attachment for life.

### 3. CONCENTRATIVENESS.

The organ is situated immediately above Philoprogenitiveness, and below Self-Esteem.

Observation proves that this is a distinct organ, because it is sometimes found large, when the organs of Philoprogenitiveness and Self-Esteem lying below and above it are small, and sometimes small when these are large. Dr Spurzheim observed it to be large in those animals and persons who seemed attached to particular places; and he hence termed it the organ of *Inhabitiveness*. The function, however, is stated by him as only conjectural. From more enlarged observations, it now seems probable that its function is to give the desire for permanence in place, and for permanence of emotions and ideas in the mind. Its abuses lead to aversion to move abroad, also to morbid dwelling on internal emotions and ideas, to the neglect of external expressions. It serves to maintain two or more powers in simultaneous and combined activity, so that they may be directed towards one object; and it is, in consequence, named Concentrativeness. Dr Vimont divides this organ into two; and states facts tending to shew that the love of place is manifested by the upper and Concentrativeness by the lower portion. The organ is small in the American Indians, and larger in Negroes and Europeans.

### 4. ADHESIVENESS.

This organ is situated on each side of Concentrativeness, higher up than Philoprogenitiveness, and just above the lambdoidal suture.

The *faculty* produces the instinctive tendency to attach one's-self to surrounding objects and beings. It disposes to friendship and society in general, and gives ardour to the shake of the hand. In boys it frequently indicates itself by attachment to dogs, horses, rabbits, birds, and other animals. In girls it shews itself by affectionate embraces of the doll. It is stronger, and the organ is larger, in women than in men. When too strong, excessive regret at the loss of a friend, or excessive uneasiness at leaving one's country, or the disease called Nostalgia, is the result. When feeble, indifference to society is the consequence, which may render a man an anchorite or hermit. When abused it leads to clanship and attachment to worthless individuals. The organ is large in Mrs H. and Mary Macinnes.

### 5. COMBATIVENESS.

The organ is situated at the inferior and mastoid angle of the parietal bone.

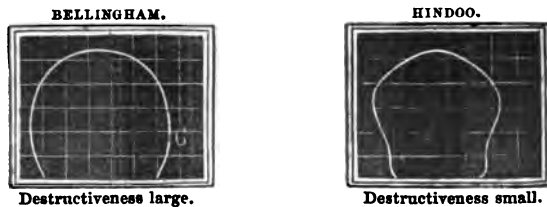
The *faculty* produces the tendency to oppose, whence proceed active courage, and, when energetic, the propensity to attack. A considerable endowment is indispensable to all courageous and magnanimous characters. It gives that boldness to the mind which enables it to look undaunted on opposition, to meet it tranquilly, and, if possible, to overcome it. When very deficient, the individual cannot resist attacks, and is incapable of making his way where he must invade the prejudices or encounter the hostility of others. When too energetic and abused, it inspires with the love of contention for its own sake; produces a fiery and quarrelsome disposition; and pleasure may then be felt in disputation or in fighting.

The organ is generally large in persons who have murdered from the impulse of the moment. It is large in the Caribs, King Robert Bruce,

David Haggart, General Wurmser, Maxwell ; moderate in Rev. Mr M. and small in most of the Hindoos and Ceylonese.

#### 6. DESTRUCTIVENESS.

This *organ* is situated immediately above, and extends a little backwards and forwards from the external opening of the ear, and corresponds to the squamous plate of the temporal bone.



The *faculty* produces the impulse, attended with desire, to injure or destroy in general. The use of it is to injure those who assail us ; to kill for food ; and to destroy noxious objects and beings. Combateness gives the desire to meet and overcome obstacles ; and having vanquished them, the mind, under its inspiration, pursues them no farther. Destructiveness prompts us to exterminate them, so that they may never rise up to occasion fresh embarrassment. When energetic, it gives a keen and impatient tone to the mind. Anger and rage are manifestations of it. It is essential to satire ; and inspires authors who write cuttingly, with a view to lacerate the feelings of their opponents. When it is very deficient, and Benevolence is large, there is too much softness in the constitution ; the mind, as it were, wants temper. The individual feels, and others likewise discover, that his resentment is feeble and impotent, and the wicked set him at defiance, or subject him with impunity to abuse. Cruelty is the result of its excessive energy, uncontrolled by Benevolence and Justice. The organ is conspicuous in the heads of cool and deliberate murderers, and in persons habitually delighting in cruelty. Cursing is the outward expression of its fierce activity, and is another form of its abuse. The organ is very discernible in carnivorous animals. They have more brain above and behind the ear, than herbivorous creatures. The organ is large in the busts of Dean, Mitchell, Pallet, Thurtell, Heaman, and in the skulls of Bruce, Gordon, Hussey, Nisbet, Bellingham, Buchanan, Rotherham, Albert ; and small in most of the Hindoos.

#### ALIMENTIVENESS.

The convolutions lying in the *fossa zygomatica* immediately under *Acquisitiveness*, and before *Destructiveness*, are, on probable evidence, supposed to be the organs of the instinct that prompts us to take nourishment. The organs, when large, give breadth across the head at the temples, above and a little behind the cheek-bones. The organ not being established is only marked with a cross on the bust.

#### ORGAN OF THE LOVE OF LIFE.

There are great differences among individuals in their love of life, and it is conjectured that a convolution lying at the base of the middle lobe of the brain, towards the mesial line, adjoining to, and inward from, Alimmentiveness, is the organ of this instinct ; but it is only conjectural.

### 7. SECRETIVENESS.

The *organ* is situated at the inferior edge of the parietal bones, immediately above Destructiveness, or in the middle of the lateral portion of the brain.

HINDOO.



Secretiveness large.

CEYLONESE.



Secretiveness small.

The *faculty* produces the tendency to restrain within the mind the various emotions and ideas that involuntarily present themselves, until the judgment has approved of giving them utterance. It is an ingredient in prudence. Its abuses are, cunning, deceit, duplicity, lying, and, joined with Acquisitiveness, theft. When deficient, the individual is too open, and wants discretion. It enables man and animals, by prudence, slyness, or cunning, to avoid the assaults of enemies, when they are unable to repel them by force. In writing, it leads to irony, and, combined with the faculty of Wit, gives a talent for humour. It assists the actor. The organ is large in Bruce, La Fontaine, and Clara Fisher; also in American Indians, Cunning Debtor, David Haggart, Hindoos, Peruvians; moderate in skull with organs marked.

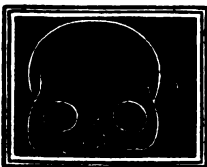
### 8. ACQUISITIVENESS.

The organ is situated at the anterior inferior angle of the parietal bone. Dr Spurzheim called it Covetousness; Sir G. S. Mackenzie suggested the more appropriate name of Acquisitiveness.

The faculty produces the tendency to acquire, and the desire to possess in general, without reference to the uses to which the objects, when attained, may be applied. The idea of property is founded on it. It takes its direction from other faculties, and hence may lead to collecting coins, paintings, minerals, and other objects of curiosity or science, as well as money. Idiots, under its influence, are known to collect things of no intrinsic value. A person in whom it is predominant, desires to acquire for the pleasure attending the mere act of acquisition. He in whom it is small is little disposed to collect any thing. The abuses of it are inordinate desire for property, selfishness, and avarice. The organ is large in Heaman; full in Rev. Mr M.; and moderate in King Robert Bruce.

### 9. CONSTRUCTIVENESS.

The *organ* is situated a little upward and backward from the outer angle of the eye.



Constructiveness large.



Constructiveness small.

The *faculty* produces the tendency to fashion or construct in general. It aids the architect, and all who combine materials into works of art. It takes its direction from the other faculties. When combined with *Combative-ness* and *Destructiveness*, it will give a desire to construct implements of war;—with predominant *Veneration*, to erect places of religious worship;—with *Tune* and *Time*, to construct musical instruments. The organ is large in all the lower animals which build. It is large in Brunel, Haydon, Herschel, and in all who have excelled in constructive talent. It is large in the ancient Greek skulls, and small in the New Hollanders.—The talent for engineering does not belong to it, but to Weight.

## GENUS II.—SENTIMENTS.

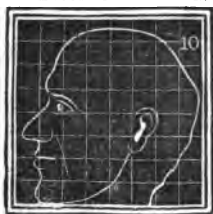
These faculties, like those which we have already considered, do not form specific ideas, but produce merely a *SENTIMENT*; that is, a propensity, joined with an emotion or feeling of a certain kind. Several of them, viz. *SELF-ESTEEM*, *LOVE OF APPROBATION*, *CAUTIOUSNESS*, and *BENEVOLENCE*, are common to man with the lower animals; all the others are peculiar to man.

### I. *Sentiments common to Man and the lower Animals.*

#### 10. SELF-ESTEEM.

The *organ* is situated at the vertex or top of the head, a little above the posterior or sagittal angle of the parietal bones.

FRANCOIS CORDONNIER.



Self-Esteem moderate.

MR. —————



Self-Esteem large.

The *faculty* produces the sentiment of Self-Esteem or Self-love in general. It inspires the mind with confidence in its own powers; and, when combined with the superior sentiments and intellect, gives dignity to the character. When deficient, it produces a want of confidence in one's self, and may lead to an excess of humility. When abused, it produces pride, disdain, conceit, selfishness, arrogance, egotism, or the love of power. Combined with large *Destructiveness*, and deficient *Benevolence* and *Conscientiousness*, it gives rise to envy. The organ is large in Haggart, the Hindoos, Dempsey; moderate in Dr Hette, and the American Indians.

#### 11. LOVE OF APPROBATION.

The *organ* is situated on each side of that of Self-Esteem, and above *Adhesiveness*.

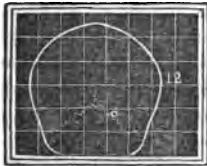
The *faculty* produces the love of the esteem and admiration of others, expressed in praise or approbation. A due endowment of it is indispen-

sable to an amiable character. It induces its possessor to make active exertions to please others, and also to suppress numberless little manifestations of selfishness, and to restrain many peculiarities of temper and disposition, from the dread of incurring their disapprobation. The direction in which gratification of it is sought, depends on the other faculties with which it is combined in the individual. If the moral sentiments and intellect be vigorous, it will desire an honourable fame, and hence it animates and excites the poet, painter, orator, warrior, and statesman. If the lower propensities predominate, the individual may be pleased by the reputation of being the best fighter, or the greatest drinker, of his circle. The abuses of it are vanity, a fidgety anxiety about what others will think of us, false ambition, and love of praise independently of praiseworthiness. When deficient, indifference to the opinion of others is the consequence. The organ is large in Bruce, Dr Hette, American Indians, Clara Fisher; deficient in D. Haggart and Dempsey.

## 12. CAUTIOUSNESS.

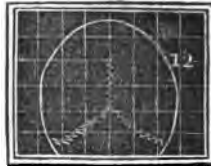
The *organ* is situated near the middle of each parietal bone, where the ossification of the bone generally commences.

HINDOO.



Cautiousness large.

FRENCH SKULL.



Cautiousness small.

The *faculty* produces the emotion of fear in general. It leads the individual in whom it is strong to hesitate before he acts, and, from apprehending danger, to take precaution, that he may be assured of his safety. It is an element in a prudent character. When too powerful, it produces doubts, irresolution, and wavering. When deficient, the individual is not apprehensive about the results of his conduct, and often proceeds to act without mature deliberation. The involuntary activity, from internal causes, of this organ, in those in whom it is too powerful, produces sensations of dread and apprehension, gloomy despondency, or even despair, without an adequate external cause. A great and involuntary activity of it occasions a *panic*, a state in which the mind is hurried away by an irresistible emotion of fear, disproportioned to the outward occasion. The organs are generally largely developed in children. It is an element in a bashful character, and produces the timidity essential to it. When combined with large Combativeness, it gives rise to a valiant but prudent character. The organ is large in Bruce, Hette, the Mummies, Peruvians, and Hindoos; moderate in Bellingham, Mary Macinnes, and Negroes.

## 13. BENEVOLENCE.

The *organ* is situated at the upper part of the frontal bone, in the coronal region, and immediately before the fontanel.

The *faculty* produces the desire of the happiness of others, and disposes to compassion and active benevolence. It communicates mildness

to the temper, and disposes the possessor to view charitably the actions and character of others. A small development of the organ does not produce cruelty as its proper function, but only indifference to the welfare of others; when, however, Destructiveness is large, and this organ is small, cruelty may result from the uncontrolled activity and abuse of the former. The lower animals possess this organ, but the faculty in them

JACOB JERVIS.



Benevolence large.

CARIB.



Benevolence small.

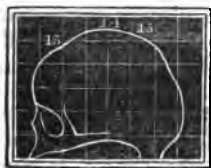
seems to be limited, in a great degree, to the production of passive mildness of disposition. Dogs, horses, monkeys, &c. which have the corresponding part of the forehead large and elevated, are mild and pacific; those, on the other hand, in which it is small and depressed, are ill-natured. It is depressed in all the ferocious tribes of animals, and also in nations remarkable for cruelty, as the Caribs, &c. The ancients make the top of the forehead much higher in Seneca than in Nero. When abused, it leads to profusion, injurious indulgence of the appetites and fancies of others, prodigality, facility of temper. The organ is large in Jacob Jervis, the Negro Eustache, Henry Quatre, Hette; very small in Bellingham, Griffiths, and the Caribs; moderate in Bruce and Gordon.

## II. *Sentiments proper to Man.*

### 14. VENERATION.

The *organ* is situated at the middle of the coronal region of the brain, at the bregma or fontanel of anatomists.

Skull in Dr GALL's Collection.



Veneration large, Benevolence and Firmness deficient.

DR HETTE.



Benevolence and Firmness large, and Veneration deficient.

The *faculty* produces the sentiment of respect and reverence; and, when directed to the Supreme Being, adoration. It is the source also of the tendency to look up to and admire superiors in rank and power; and, in this way, disposes to obedience. It is also the chief element in filial piety. When the organ is large, and that of Self-Esteem small, humility is the result. A deficiency of it does not produce profanity, as a positive manifestation; it only renders the mind little sensible to the

respectful and reverential feelings before described. When too energetic, and not enlightened by intellect, it produces abuses, or superstitious respect for objects and opinions which have nothing but their antiquity to recommend them ; it then renders its possessor prone to venerate every ancient absurdity, as "the wisdom of our ancestors." When very energetic, it may lead to religious enthusiasm, which may ultimately terminate in insanity. The organ is large in the Negroes, Bruce, Martin ; small in Dr Hette.

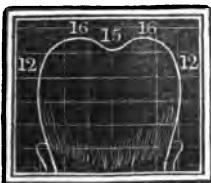
### 15. FIRMNESS.

The *organ* is situated at the posterior part of the coronal region of the head, close upon the middle line. It is represented in the figures given under "Conscientiousness." It produces determination, constancy, and perseverance. Fortitude, as distinguished from active courage, results from it. When powerful, it gives a fixed, forcible, and emphatic manner to the gait, and a corresponding tone to the voice. It gives, however, perseverance only in manifesting the faculties which are possessed by the individual in adequate strength. A person with great Firmness, and much Tune, may persevere in making music : diminish Tune, so as to render him insensible to melody, and he will not persevere in that attempt ; but if he have great Causality, he may be constant in abstract study. When too energetic, and not well directed, it produces obstinacy, stubbornness, and infatuation. When weak, the individual is prone to yield to the impulses of his predominating feelings. The organ is large in Bruce, Haggart, American Indians ; small in Mrs H.

### 16. CONSCIENTIOUSNESS.

The *organ* is situated on the posterior and lateral parts of the coronal region of the brain, upwards from Cautiousness, and backwards from Hope.

Mrs H.



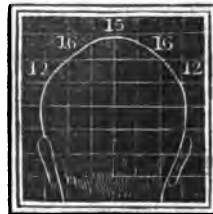
Firmness small, Conscientiousness large.

Boy addicted to falsehood.



Firmness and Conscientiousness deficient.

DAVID HAGGART.



Firmness large, Conscientiousness deficient.

In Mrs H., Firmness 15 is small, and Conscientiousness 16 large ; in D. Haggart, Firmness 15 is large, and Conscientiousness 16 deficient ; and in the boy, both of these organs are deficient, which is indicated by the head rising very little above 12 Cautiousness. If in Mrs H. Firmness had been as large as Conscientiousness, or in Haggart Conscientiousness had been as large as Firmness, the heads would have presented a full and elevated segment of a circle passing from Cautiousness to Cautiousness, the very opposite of the flat and low line in the head of the boy. It is of great importance in practice to attend to these different forms.

The *faculty* produces the feeling of duty, obligation, incumbency, right and wrong, for which we have no single definite expression in the



English language. Justice is the result of this sentiment, acting in combination with the intellectual powers. A large endowment of it is of the highest importance in regulating the conduct. The individual is then disposed to act justly from the love of justice; he is delighted with the observance of right, and disgusted with the doing of wrong: he is inclined to form equitable judgments of the motives and conduct of others; is scrupulous, and, when deserving of censure, is as ready to condemn himself as his neighbour. When the organ, on the other hand, is small, the power of experiencing the sentiment is feeble, and the individual, in consequence, is more prone to do an unprincipled action, if tempted by interest or inclination. He experiences a difficulty both in perceiving the quality of justice itself, and in feeling the imperious obligations of duty, arising from its dictates. The organ is large in Hette, and Mrs H.; small in Bruce, Haggart, Bellingham, and in the skulls of most of the savage tribes.

### 17. HOPE.

The *organ* is situated on each side of that of Veneration, and extends under part of the frontal and part of the parietal bones.

The *faculty* produces the sentiment of Hope in general, or the tendency to believe in the possibility of what the other faculties desire, but without giving the conviction of it, which depends on Reflection. It inspires with gay, fascinating, and delightful emotions, painting futurity fair and smiling as the regions of primeval bliss. When too energetic and predominant, it disposes to credulity, and, in mercantile men, leads to rash and inconsiderate speculation. When the organ is very deficient, and that of Cautiousness large, a gloomy despondency is apt to invade the mind.

In Religion, this faculty favours the exercise of Faith; and by producing the natural tendency to look forward to futurity with expectation, disposes to belief in a life to come. Every faculty desires, but each does not produce hope; nay, desire is sometimes strong, when hope is feeble or extinct; a criminal on the scaffold may strongly desire to live, when he has no hope of escaping death.

### 18. WONDER.

The *organ* is situated above Ideality, and before Hope. See Figure under *Ideality*.

The *faculty* produces the sentiment of wonder, surprise, or astonishment, and gives the love of the new and the strange. When very large, there is an appetite for marvellous events, objects, and occurrences, and a tendency to believe in the supernatural. When the organ is very large and internally active, the individual is liable to mistake its impressions for inspirations, or communications from supernatural beings. He sees visions, and believes in apparitions. When very deficient, little interest is felt in the new, the marvellous, or the astonishing, and the individual desires to try every thing by the standard of reason, experience, or common sense. It is an element in *admiration*.

### 19. IDEALITY.

The *organ* is situated nearly along the lower edge of the temporal ridge of the frontal bone. It and the organ of Wonder are both large in Tasso.

The *faculty* produces the feeling of beauty and perceptibility, and delights in the "beau ideal." It tends to elevate and endow with splendid excellence every object conceived by the mind; and stimulates the other faculties to create scenes and objects invested with the qualities which it delights to contemplate. It inspires with enthusiasm for the beautiful, and prompts to embellishment and splendid conceptions. It is essential to the poet, painter, sculptor, and all who cultivate the fine arts. A good endowment of it elevates and expands the aspirations of the other feelings and conceptions, directs them to higher objects than those which would be sufficient to gratify themselves, and thus gives a constant tendency to refinement. A great deficiency of it leaves the mind in a state of homeliness, varying its appearances according to the other faculties which predominate in the individual. The organ is larger in civilized than in savage nations; in the European for example, than in the Negro, American Indian, and New Hollander. The poetry of Milton, Shakspear, and Byron, abounds with its influence; that of Crabbe has less; and it is scarcely distinguishable in the verses of Dean Swift. The organ is large in Voltaire, Wordsworth, Chalmers, Wilkie, Burke, Haydon, Henri Quatre, Francois Cordonnier; small in New Hollanders, Mr Hume, Bellingham, Haggart, Gordon. The part marked ? is unascertained. Several facts indicate that it is the organ of the Sublime.



### 20. WIT.

The *organ* is situated at the side of the upper part of the forehead, between *Causality* and *Ideality*.

The *faculty* produces the sentiment of the ludicrous, and gives the tendency to view objects in that light. It is the predominant feature in the writings of Sterne, Swift, Voltaire, Rabelais, Cervantes, and Boileau. It produces *satire*, when combined with *Destructiveness*; and *humour*, when combined with *Secretiveness*. In humour, Wit produces the ludicrous colouring, and *Secretiveness* the slyness. The organ of Wit is large in Sterne, Voltaire, Henri Quatre; and moderate in Sir J. E. Smith, Mr Hume, Hindoos.

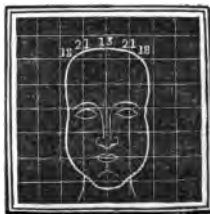
### 21. IMITATION.

The *organ* is situated on the two sides of Benevolence.

JACOB JERVIS.



CLARA FISHER.



In both of these figures the head rises to a great height above the eyes; but in Jervis it slopes rapidly on the two sides of 13, Benevolence, indicating Imitation deficient; whereas in Miss Clara Fisher it is as high at 21, Imitation, as at Benevolence, indicating both organs to be large.

The *faculty* gives the talent for Imitation in general. It contributes to render a poet or author dramatic. It is essential to an actor. *Secretiveness* also is necessary to an actor, to enable him to conceal his own character; while, by means of Imitation, he assumes that of the individual whom he personifies. It aids the portrait-painter, sculptor, and engraver; and it gives the tendency in speech and conversation, to suit the action to the words. It is generally active and the organ large in children. When the organ is deficient, the individual is destitute of flexibility of manner; he presents habitually the air of his predominant dispositions. Imitation does not supply the place of other faculties. A person with large Imitation, and deficient Tune, could not imitate Catalani or Braham in singing. It enables its possessor to employ his other faculties, only in so far as he possesses them, in imitation.

## ORDER II. INTELLECTUAL FACULTIES.

These faculties communicate to men and animals knowledge of their own internal sensations, and also of the external world; and their function is to know objects that exist, and their qualities and relations. They consist of three genera; the first genus includes the Five Senses; the second, those powers which take cognizance of external objects, named Knowing or Perceptive Faculties; and the third, the faculties which trace abstract relations, and reason or reflect, named the Reflective Faculties.

### GENUS I. EXTERNAL SENSES.

By means of the Five Senses man and animals are brought into communication with the external world.

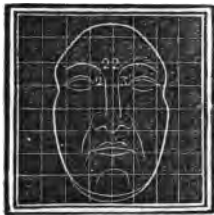
Each sense has two organs, but a single impression is received by the mind from affections of them. The senses are, 1st, FEELING OR TOUCH; 2d, TASTE; 3d, SMELL; 4th, HEARING; 5th, SIGHT; and Mr Simpson conceives that there is evidence of a 6th sense, that of Force or Resistance, of which the whole muscular frame is the external organ. See *Phrenological Journal*, vol. ix., p. 193.

### GENUS II. KNOWING FACULTIES, OR FACULTIES WHICH TAKE COGNIZANCE OF THE EXISTENCE, QUALITIES, AND RELATIONS OF EXTERNAL OBJECTS.

#### 22. INDIVIDUALITY.

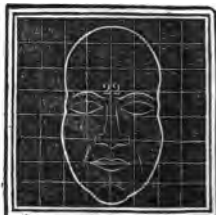
The *organ* is situated in the middle of the lower part of the forehead.

KING GEORGE III.



Individuality, 22, large;  
and Form, 23, large.

J. P. CURRAN.



Individuality, 22, moderate;  
Form small.

The *faculty* gives the desire, accompanied with the ability, to know objects as mere existences. Their qualities, modes of action, and effects, are taken cognizance of by other faculties. It prompts to observation, and is a great element in a genius for those sciences which consist in a knowledge of specific existences, such as natural history, botany, mineralogy, and anatomy. It forms the class of ideas designated by nouns substantive. When deficient, the power of observation is feeble.

### 23. FORM.

The size of this organ is indicated by the width between the eyes, the different degrees of which are caused by the greater or less development of the convolutions of the brain situated on the mesial or inner side of the orbitary plates of the frontal bone, on each side of the *crista galli*.

The function of the *faculty* is to judge of Form. It aids the mineralogist, portrait-painter, and all persons engaged in the imitative arts. It gives the power of distinguishing faces. Dr Spurzheim mentions, that it is large in the Chinese whom he had seen in London, and also in the French. Children, in whom this organ, together with those of Constructiveness, Secretiveness, and Imitation, are large, frequently draw, cut, or scratch, the figures of men and animals for their amusement. Large in King George III., and in the Chinese skulls; and small in Curran. See *Cuts*, p. 18.

### 24. SIZE.

The *organ* is situated at the inner and upper angle of the eyebrow.

The *faculty* gives the power of judging of the dimensions of space, or size; and also of distance. It gives a talent for perspective, and, along with Locality, is essential to the landscape-painter. Some officers in the army, in forming their companies into line, estimate the space which the men will occupy with perfect accuracy, and others can never learn to judge correctly of this requisite;—the organ has been observed largely developed in the former. It is important to geometers. As the frontal sinus throws a difficulty in the way of observing this organ, the negative evidence, that is, the invariable deficiency of the mental power, when the skull during life indicates a depression of the organ, is chiefly to be relied on. Large in Brunel, Williams, Douglas; small in Ferguson.

### 25. WEIGHT OR FORCE.

The *organ* is situated near the inner and upper angle of the eyebrow, a little outward from the nose.

The *faculty* takes cognizance of force, and estimates the degrees of it. It enables the turner, the archer, and also the player at billiards and quoits, to adjust the degree of force which they exert to the degree of resistance to be overcome; and a large endowment of it contributes greatly to their success. It is essential to engineers, who require to regulate momentum and resistance in mechanics. It enables man and animals to adapt their movements to the laws of gravitation. It and Size are large in expert marksmen. When deficient, the power is feebly possessed. The frontal sinus, when large, extends to this organ. The organ is large in Brunel, Sir Isaac Newton, and M'Lachlan.

### 26. COLOURING.

The *organ* is situated at the middle of the arch of the eyebrow. When

large, it causes it to project forward; and sometimes gives an arched appearance to the middle of the eyebrow.

The *faculty* gives the perception of colours, their shades, harmony and discord; but the reflecting faculties adapt them to the purposes of painting. It is generally more powerful in women than in men; and, accordingly, some women, as *colourists*, have equalled the masters among men, while, as *painters*, women in general have always been inferior to the other sex. A great endowment of this faculty renders the sight of flowers and enamelled meadows pleasing. It aids the flower-painter, enameller, dyer, and, in general, all who occupy themselves with colours. Its great energy gives a passion for colours, but not necessarily a delicate taste in them. Taste depends upon a well regulated, rather than a very powerful activity of the faculties. There are individuals whose perception of form is good, but who are insensible to different hues and shades of colour; Mr James Milne, whose mask is sold, is an example; and such persons are uniformly deficient in the organ of Colouring. Sometimes colours are very accurately judged of, although the eyesight be not vigorous. In the portraits of Rubens, Rembrandt, Titian, Salvator Rosa, and Claude Lorraine, it gives an arched appearance to the eyebrow. In the masks of the late Sir Henry Raeburn, of Wilkie, and of Haydon, the eyebrow projects at this organ.

#### 27. LOCALITY.

The *organ* is situated a little above the inner termination of the eyelashes, on each side of Individuality.

The *faculty* takes cognizance of direction in space, and of the position of objects. It conduces to the desire of travelling, and constitutes a chief element in the talents for topography, geography, astronomy, descriptive writing, and landscape-painting. It gives what is called "coup d'œil," and judgment of the capabilities of ground. It is necessary to chess-players, and to the military draughtsman; and is of great importance to a general in war. The organ is large in the heads of astronomers, as Kepler, Galileo, Newton, Tycho Brahe, Descartes; and also of landscape painters; and travellers, as Mungo Park and Captain Cook. The frontal sinus occasionally obscures its real dimensions.

#### 28. NUMBER.

The *organ* is situated behind and a little above the exterior angle of the eye. When it is large, the arch of the eyebrow at the outer edge is either much bent downward, or there is an elevation behind the external angle of the orbit.

The special functions of the *faculty* is to give the conception of number and its relations; or the talent for calculation in general. Arithmetic, algebra, and logarithms belong to it;—but the other branches of mathematics, as geometry, are not the simple results of this faculty. They depend on Individuality, Form, Size, Locality, and Comparison. The organ appears large in the portraits of Euler, Kepler, Napier, Gassendi, La Place, &c.; and in Jedariah Buxton, who possessed the faculty in a surprising degree, it is very large. It is large in Bidder, Humboldt, Colburn; small in French M. D.

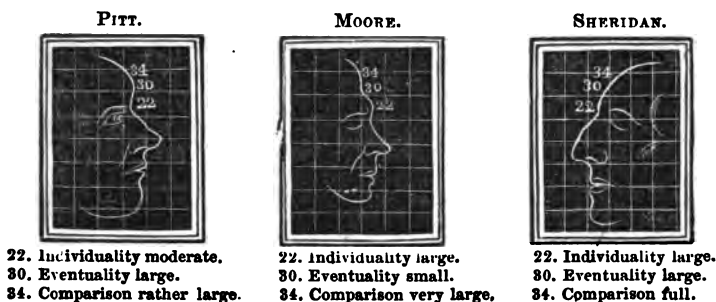
#### 29. ORDER.

The *organ* lies above the outer angle of the orbit of the eye, between *Number* and *Colouring*.

The *faculty* gives the perception and love of symmetry, or order, in the arrangement of physical objects. There are individuals who are martyrs to the love of order, who are distressed beyond measure by the sight of confusion, and highly satisfied when every thing is well arranged. These persons have the organ in question large. The sort of arrangement, however, imposed by this faculty, is different from, although perhaps one element in, that philosophical method which is the result of the reflective faculties. When the organ is deficient, the individual is blind to the beauty of order, and lives contentedly in the midst of the greatest confusion. The organ is large in the masks named "French M. D.," and "Order large," and in Humboldt, the brother of the traveller; and small in Anne Ormerod.

### 30. EVENTUALITY.

The *organ* is situated exactly in the middle of the forehead, above the nose.



The *faculty* takes cognizance of all phenomena, or of motion, action, and events. It is the source of verbs, as Individuality is of substantives. It observes occurrences, and prompts to the use of experiments to gain knowledge. A horse at rest is an object of Individuality; while a horse in motion is an object of Eventuality. It gives a talent for observation of changes, and is an element in a talent for narration. It takes cognizance of history, and is useful in practical affairs. The organ is large in Pitt, Sir Walter Scott, and in the reputed masks of Dean Swift.

### 31. TIME.

The *organ* is situated on each side of Eventuality. The *faculty* gives the power of judging of time, and of intervals in general. By giving the perception of measured cadence, it appears to be one source of pleasure in dancing. It is essential to music and versification.

### 32. TUNE.

The *organ* is situated above the external angle of the orbit of the eye, as high as the middle of the forehead, on each side of the temporal ridge. Sometimes the temporal muscle covers part of it, and leads to an over estimate of its size. This error may be guarded against by pressing the part, and causing the individual to move strongly the lower jaw.

The organ of Tune bears the same relation to the ears, as the organ of Colouring does to the eyes. The ear receives the impression of sounds,

and is agreeably or disagreeably affected by them ; but the ear has not recollection of tones, nor does it judge of their relations ; it does not perceive the harmonies of sound ; and sounds, as well as colours, may be separately pleasing, though disagreeable in combination.

The *faculty* gives the perception of melody ; but this is only one ingredient in a genius for music. Time is requisite to give a just perception of intervals ; Ideality, to give elevation and refinement ; Secretiveness and

HANDEL.



Tune large.

ANN ORMEROD.



Tune very small.

Imitation to produce expression ; and Constructiveness, Form, Weight, and Individuality, to supply the mechanical expertness, necessary to successful performance. This combination occurs in Kalkbrenner, Talberg, and other eminent composers and performers. In Glück and others, this organ had a pyramidal form ; in Mozart, Viotti, Zumsteg, Dussek, Crescentini, and others, the external corners of the forehead are enlarged, but rounded. Great practice is necessary to be able to observe this organ successfully.

### 33. LANGUAGE.

The *organ* lies on the back part of the bone that forms the roof of the eye. A large development of it is indicated by the prominence and depression of the eyes. If the fibres be long, they push the eyes forward ; if they are only thick, they push them towards the outer angle of the orbit and downwards. The organ of Form produces chiefly *distance* between the eyes ; without rendering them prominent.

The *faculty* enables us to acquire a knowledge of, and gives us the power of using, artificial signs or words. Persons who have a great endowment of it abound in words. In ordinary conversation their language flows like a copious stream ;—in a speech they pour out torrents. When this organ is large, and those of reflection small, the style of writing or speaking will be verbose and cumbersome ; and when this difference is very great, the individual, in ordinary conversation, is prone to repeat, to the inconceivable annoyance of the hearer, the plainest sentences again and again, as if the matter were of such difficult apprehension that one telling was not sufficient to convey the meaning. When the organ is very small, there is a want of command of expression, a painful repetition of the same words, and a consequent poverty of style both in writing and speaking.

The signification of words is learned by other faculties : For example, this faculty may enable us to learn and remember the word Melody ; but if we do not possess the faculty of Tune, we can never appreciate the meaning attached to that word by those who possess that faculty in a high degree. The power of learning foreign languages depends on this organ, combined with Imitation, Individuality, Eventuality, and Comparison.—

Large in Companion of Gall, Sir J. E. Smith, Humboldt, Voltaire ; small in Fraser.

FUNCTIONS OF INDIVIDUALITY AND EVENTUALITY DISTINGUISHED FROM THOSE OF THE OTHER KNOWING FACULTIES.

In the preceding pages it is stated, that the faculty of Form perceives the forms of objects ;—Colouring their colour ;—Size their dimensions ;—and that Individuality takes cognizance of existences, and Eventuality of events in general. The question naturally occurs, If the minor knowing powers apprehend *all* the separate qualities of external objects, what purpose does Individuality serve in the mental economy ? Its function is to form a single intellectual conception out of the different items of information communicated by the other knowing faculties. In perceiving a tree, the object apprehended by the mind is not colour, form, and size, as separate qualities ; but a *single thing or being*, named a tree. The function of Individuality, therefore, is to embody the separate elements furnished by the other knowing faculties into one, and to produce out of them conceptions of aggregate objects as a whole : which objects are afterwards viewed by the mind as individual existences, and are remembered and spoken of as such, without thinking of there constituent parts. We have no knowledge of the substance of objects apart from their qualities, yet we have a conviction of their substantive existence. This is given by Individuality. Children early use and understand abstract terms, such as tree, man, ship ; and the organ of Individuality is generally well developed in them.

Farther, Form, Colour, and Size, furnish certain elementary conceptions which Individuality unites and conceives, as the being called a Man. The faculty of Number called into action gives the idea of plurality ; that of Order furnishes the idea of regular arrangement. Now, Individuality, receiving the intimations of all these separate faculties, *combines* them again, and contemplates the *combination* as an *individual object*, and this is an *army*. After the idea of an army is thus formed, the mind drops the recollection of the constituent parts, and afterwards thinks of the *aggregate only*, or of the combined conception formed by Individuality ; and regards it as a single object. Eventuality is surrounded by the organs of Individuality, Locality, Comparison, and Causality, and forms individual conceptions from their combined intimations. A revolution, for instance, is not a substance or being existing in nature, but is the result of the combined action of a number of moral and physical causes, which Eventually conceives as one event.

GENUS III.—REFLECTING FACULTIES:

The intellectual faculties which we have considered, give a knowledge of objects, their qualities and relations, and also of events ; those to which we now proceed produce ideas of relation or reflect. They minister to the direction and gratification of all the other powers, and constitute what we call Reason or Reflection.

34. COMPARISON.

The *organ* is situated in the middle of the upper part of the forehead. The *faculty* gives the power of perceiving resemblances, analogies, and



differences. Tune may compare different notes ; Colour contrast different hues ; but Comparison may compare a Colour and a Note with a feeling (selecting, for example, black drapery and solemn music as accompaniments of grief,) which these other faculties by themselves could not accomplish. This faculty prompts to reasoning, but not in the line of necessary consequence. It explains one thing by comparing it with another. It gives "ingenuity in discovering unexpected glimpses and superficial coincidences in the ordinary relations of life," and great power of illustration. It enables the mathematician to perceive the truth of a proposition which is necessarily implied in another which he knows to be demonstrable. It is the largest organ in the forehead of the late Right Honourable William Pitt. It is large also in Dr Chalmers, Roscoe, and Burke. In popular preachers it is generally fully developed. It is more rarely deficient than any other intellectual organ ; and the Scripture is addressed to it in a remarkable degree, being full of analogies and comparisons.

### 35. CAUSALITY.

The *organ* is situated on the upper part of the forehead, on each side of Comparison.

The *faculty* perceives the dependencies of phenomena, and it furnishes the idea of causation, as implying something more than mere juxtaposition or sequence. It impresses us with an irresistible conviction, that every phenomenon or change in nature has a cause, and hence, by successive steps, leads us to the First Cause of all. In looking to the actions of men, it prompts us to consider the motives, or moving causes, from which they proceed. It induces us to ask, Why is this so ? It gives penetration, and the perception of logical consequences in argument. It is large in persons who possess a natural genius for metaphysics, political economy, or similar sciences. A great defect of the organ renders the intellect superficial ; and unfits the individual for forming comprehensive and consecutive views, either in abstract science or in business. Coincidence only, and not Causation, is then perceived in events. The organ appears largely developed in the portraits and busts of Bacon, Locke, Franklin, Kant, Voltaire, Playfair, Dr Thomas Brown ; and in the masks of Haydon, Burke, Brunel, Wilkie ; moderate in Pitt and Sir J. E. Smith ; and very deficient in the Caribs and New Hollanders. It is larger in the Germans, Scotch, and English, in general than in the French.

### MODES OF ACTIVITY OF THE FACULTIES.

All the faculties, when active in a due degree, produce actions good—proper—or necessary. Excess of activity and improper direction produce abuses. The smallness of a particular organ is not the cause of its producing abuses. Thus, though the organ of Benevolence be small, this does not produce cruelty. It will be accompanied with indifference to the miseries of others. It may lead to the omission of duties. When one organ is small, abuses may result from another being left without proper direction and restraint. Thus, large Acquisitiveness and Secretiveness, combined with small Conscientiousness, and deficient reflecting faculties, may produce theft. Large Destructiveness, with small Benevolence, may produce cruel and ferocious actions.

Every faculty when in action, from whatever cause, produces the kind

of feeling, or forms the kind of ideas, already explained as resulting from its natural constitution.

The PROPENSITIES and SENTIMENTS cannot be excited to activity by a mere act of the will. We cannot conjure up the emotions of Fear, Compassion, or Veneration, by merely willing to experience them. These faculties, however, may enter into action from internal excitement of the organs; and then the desire or emotion which each produces is experienced, whether we will to experience it or not. We have it in our power to permit or restrain the manifestation of them in the action; but we have no option, if the organ be excited, to experience or not to experience, the feeling itself. There are times when we feel involuntary emotions of fear, or hope, or awe, arising in us, for which we cannot account; and such feelings depend on the internal activity of the organs of these sentiments.

In the *second* place, these faculties may be called into action independently of the will, by the presentment of the external objects fitted by nature to excite them. When an object in distress is presented, the faculty of Benevolence starts into activity, and produces the feelings which depend upon it. In the cases, these power of acting or of not acting, is dependent on the will; but the power of feeling, or of not feeling, is not so.

In the *third* place, the faculties of which we are now speaking, may be excited to activity, or repressed, *indirectly*, by an effort of the will. Thus, the knowing and reflecting faculties have the function of forming ideas. If these faculties be employed to conceive internally the objects fitted by nature to excite the propensities and sentiments, the latter will start into activity in the same manner, but not in so powerful a degree, as if their appropriate objects were externally present. The vivacity of the feeling, in such cases, will be in proportion to the strength of the conception, and the energy of the propensities and sentiments together. If we conceive inwardly an object in distress, and Benevolence be powerful, compassion will be felt, and tears will sometimes flow from the emotion produced. Hence, he who has any propensity of sentiment predominantly active from internal excitement, will have his intellect frequently filled with conceptions fitted to gratify it.

These faculties have not the attributes of Perception, Conception, Memory, Imagination: They have the attribute of Sensation alone; that is to say, when they are active, a sensation or emotion is experienced. Hence Sensation is an accompaniment of the activity of all the faculties which feel, and of the nervous system in general; but sensation is no faculty in itself.

The laws of the KNOWING and REFLECTING faculties are different: These faculties form Ideas, and perceive Relations; they constitute Will; and they minister to the gratification of the other faculties which only feel.

1st, These faculties, as well as the former, may be active from internal causes, and then the kinds of ideas which they are fitted to form, are presented involuntarily to the mind. The musician feels the notes flowing on him uncalled for. A man in whom Number is powerful and active, calculates by a natural impulse,

2dly, These faculties may be excited by the presentment of the external objects fitted to call them into activity; and,

3dly, They may be excited to activity by an impulse from the propensities or sentiments.

When excited by the presentment of external objects, the objects are perceived, and this act is called PERCEPTION. Perception is not a separate power, but results from the lowest degree of activity of these faculties; and, if no idea is formed when the object is presented, the individual is destitute of the power of manifesting the faculty whose function is to perceive objects of that kind. Thus, when tones are produced, he who cannot perceive the melody of them, is destitute of the power of manifesting the faculty of Tune. Each of them performs Perception in its own sphere.

When these faculties are excited by an act of the Will, the ideas which they had previously formed are recalled: This act is named MEMORY, which results from the *activity* of each of these faculties; but it is no faculty itself. Tune remembers music; Individuality, facts; and so on. Time acting along with any of these faculties gives the impression of the *previous existence* of the ideas recalled, which impression distinguishes Memory from Conception or Imagination.

When these faculties are powerfully active, from internal excitement, the ideas they have previously formed are vividly and rapidly conceived, and the act of forming them, when not associated with the impression of past time, is styled CONCEPTION or IMAGINATION. Each executes Conception in its own sphere. When conceptions of absent external objects become vivid and permanent, through disease of the organs, the individual believes in the actual presence of the objects, and is deluded by phantoms or visions. This is the explanation of the cases cited in Dr Hibbert's work on Apparitions. Great size or disease of the organ of Wonder contributes especially to this effect.

And, lastly, JUDGMENT, in the philosophical sense, belongs to the reflecting faculties alone. The knowing faculties may be said, in one sense, to judge; as, for example, the faculty of Tune may be agreeably or disagreeably affected, and, in this way, may be said to judge of sounds; but judgment, in the proper sense of the word, is a perception of relation or of fitness, or of the connection between means and an end, and it belongs to the reflecting faculties. These faculties have perception, memory, and imagination also. He who possesses them powerfully, perceives and conceives, remembers and imagines, processes of deduction, or ideas of abstract relations, with great facility.

PRACTICAL JUDGMENT in the affairs of life depends on a harmonious combination of *all* the organs, particularly of the propensities and sentiments, in just proportions. In order to act rightly, it is necessary to feel correctly as to reason deeply.

ATTENTION is not a faculty of the mind, but merely consists in a vivid application of the faculties which form ideas. Unless an organ be adequately possessed, the objects of which it takes cognizance cannot be attended to by an effort of the will. The intellectual powers are greatly assisted in producing attention by Concentrativeness and Firmness.

ASSOCIATION expresses the mutual influence of the faculties.

The principles of Association must be sought for in the constitution of the faculties, and not in the relations of particular ideas. In using Association as an instrument of artificial memory, we ought to keep always in view, that every individual will associate, with greatest facility, ideas with those particular things which he has the greatest natural facility in perceiving. For example: He who has Number most powerful, will associate words most easily with numbers; he who has Form most power-

ful, will associate words most easily with shapes; he who has Locality most powerful, will associate words most easily with position; and he who has Tune most powerful, will associate words most easily with musical notes.

Hence, also, the influence of Association on our Judgment is easily accounted for. He in whom Veneration is powerful, and to whom the image of a saint has from infancy been presented as an object to be venerated, experiences an instantaneous and involuntary emotion of awe and respect every time the image is presented to him, or a conception of it formed, because it is now a sign which excites in him that feeling, and the latter excludes the reflecting faculties from performing their functions. Hence, until we can break this association, and prevent the conception of the image from operating as a sign to excite the faculty of Veneration into activity, we shall never succeed in bringing his understanding to examine into the real attributes of the object itself, and to perceive its want of every quality that ought justly to be venerated.

Thus, the associations which mislead the judgment, and perpetuate prejudices, are associations of words or things with *feelings* or *sentiments*, and not associations merely of ideas with ideas.

PLEASURE and PAIN, and also JOY and GRIEF, are affections of the mind arising from the exercise of every faculty. Every faculty, when indulged in its natural action, feels pleasure; when disagreeably affected, feels pain; consequently the kinds of pain and pleasure are as numerous as the faculties.

PASSION is the highest degree of activity of any faculty, and the passions are as different as the faculties: Thus a passion for glory is the result of great energy and activity of the faculty of LOVE OF APPROBATION; a passion for money, of ACQUISITIVENESS; a passion for music, of TUNE; a passion for metaphysics, of CAUSALITY.

SYMPATHY is not a faculty, nor is it synonymous with moral approbation. The same notes sounded by ten instruments of the same kind, harmonize, blend softly together, and form one peal of melody. The cause of this is to be found in the similarity of the constitution and state of the strings. Each faculty of the human mind has a specific constitution; and, in virtue of it, produces specific kinds of feelings, or originates or suggests specific kinds of ideas; and wherever similar faculties are active in different individuals, similar feelings are experienced by each, and similarity of feeling is sympathy.

Sympathy is not synonymous with moral approbation. We *approve* of the actions produced by the lower faculties of others, only when these are guided by the faculties proper to man; we never approve of Combativeness, when indulged for the mere pleasure of fighting; but we approve of the action of this faculty when directed by justice and understanding. We approve of the action of the sentiments proper to man, unmingled with any other motive, when directed by enlightened intellect.

HABIT is defined to be "a power in man of doing a thing, acquired by frequently doing it." Now, before it can be done at all, the faculty and organ on which it depends must be possessed in an available degree; and the more powerful these are, the greater will be the energy with which the possessor will do the thing at first, and the ease with which he will learn to repeat it. Habit, therefore, is the result of facility acquired by exercise. It is the organ which acquires activity and superior facility in performing its functions, by being properly used, just as the fingers of a musician attain increased rapidity and facility of motion by the practice of playing.

TASTE is the result of the HARMONIOUS ACTION of the faculties generally, in at least a moderate degree of vigour. Thus, the most beautiful poetry is that by which gratification is afforded to the higher sentiments and intellectual powers, without the introduction of any extravagance, absurdity, or incongruity, to offend any one of them. If Ideality be in excess, this may produce bombast; if Causality predominate too much, it may introduce unintelligible abstractions; if Wit be excessive, it may run into conceits, epigrams, and impertinences. A picture is in best taste when it delights the Knowing Faculties, Reflection, and the Moral Sentiments, without offending any of them.

#### PRACTICAL DIRECTIONS FOR OBSERVING DEVELOPMENT.

As "self-conviction can be obtained only by personal observation," every one who desires to become a Phrenologist should learn to observe. Phrenology, like medicine, is an *estimative*, and not a demonstrative science. Degrees of vigour in the faculties, and of size in the organs, may be *estimated* by means of observation and judgment, ripened by experience; but they cannot be exactly measured by numbers or degrees of space. A healthy brain, at a vigorous period of life, is the proper subject for observation; and as the fundamental principle of the science is that the *power* or *energy* of mental manifestation bears a uniform relation, *other conditions being equal*, to the *size* of the organs, we must be careful not to confound this quality of mind with that of mere *activity*. Size in the organ sets limits to Power, while Activity depends on temperament and exercise.

Many members of the learned professions display great felicity of illustration and fluency of elocution, surprising us with the quickness of their parts, who, nevertheless, are felt to be neither impressive nor profound. They possess acuteness without power, and ingenuity without comprehensiveness and depth of understanding. This proceeds from *activity* with *little vigour*. There are other public speakers, again, who open heavily in debate, their faculties acting slowly, but deep, like the first heave of a mountain-wave. But even their first accent is one of power—it rouses and arrests attention; their very pauses are expressive, and indicate gathering energy to be embodied in the sentence that is to come. This is an example of *power*.

It is proper to begin with observation of the more palpable differences in size. The anterior lobe of the brain, which manifests intellect, is estimated by the projection of the head before a line raised from the most projecting point of the zygomatic arch, behind the cheek-bone. The coronal region, which manifests the moral sentiments, is estimated by drawing a line through the centres of Cautiousness and Causality, and estimating the extent to which the brain rises above the plain of that line. All below this line, and behind the first line, constitutes the region of the animal feelings. These lines are represented on the head of Maxwell, p. 31. Large size may consist in length or breadth, or in both. After becoming familiar with the general size and configuration of heads, and learning to appreciate the proportions which the three orders of organs bear to each other, the student may proceed to the *observation of individual organs*; and in studying them, the real dimensions, and not the mere prominence of each organ, should be looked for. Practice, with at least an average endowment of the organs of Form, Size, and Locality,

are necessary to qualify a person to make observations with success. The student should learn from books, plates, and casts, or personal instruction (and the last is by far the best), to distinguish the *form* of each organ, and its *appearance*, when developed in different proportions to the others. The phrenological bust shews only the *situations* of the organs, and their proportions in *one* head; and it is impossible by it to communicate more information. The different appearances in all the varieties of relative size, must be discovered by inspecting *a number* of heads; and especially by contrasting instances of extreme development with others of extreme deficiency. No adequate idea of the foundation of the science can be formed until this be done. In cases of extreme size of single organs, the form delineated in the bust is generally perceived standing out in nature.

The terms used to denote the gradations of size in the different organs, in an increasing ratio, are

|               |              |               |
|---------------|--------------|---------------|
| Very small.   | Moderate.    | Rather large. |
| Small.        | Rather full. | Large.        |
| Rather small. | Full.        | Very large.   |

It ought to be kept constantly in view, in the practical application of Phrenology, that it is the size of each organ in proportion to the others *in the head of the individual observed*, and not their *absolute size*, or their size in reference to any standard head, that determines the predominance *in him* of particular talents or dispositions. The Phrenologist never compares mental ability in general with size of brain in general; for the fundamental principle of the science is, that different parts of the brain have different functions, and that hence the *same absolute quantity* of brain, if consisting of intellectual organs, may be connected with the highest genius, while, if consisting of the animal organs, lying immediately above and behind the ears, may indicate the most fearful energy of the lower propensities.

Nature admits of no exceptions, and a single instance of decidedly vigorous manifestations, with decidedly small organs, such as are represented in this Idiot, disease being absent, would overturn all previous observations in favour of Phrenology. But men are liable to err; and although an individual Phrenologist may have called an organ small, the manifestations of which are powerful, or *vice versa*, this is not to be precipitately charged against the science, nor against nature, as an exception. Chemists occasionally fail in experiments, mathematicians err in demonstrations, and arithmeticians are wrong in calculations; and, in like manner, Phrenologists may commit mistakes in observing cerebral development.

IDIOT.



## COMBINATIONS IN SIZE.

Every sane individual possesses all the organs, but they are combined in different degrees of relative size in different persons; and the manifestations of each organ are modified in some degree by the influence of those with which it is combined. The effect of combination, however, is not to change the proper functions of the different organs, but only to modify the *manner and direction* in which they are manifested, or the acts in which they seek gratification.

Three rules may be laid down for estimating the effects of differences in relative size, occurring in the organs of the same brain.

**RULE FIRST.**—Every faculty desires gratification with a degree of energy proportionate to the size of its organ ; and those faculties will be habitually indulged, the organs of which are largest in the individual. The condition, *cæteris paribus*, is always understood, and therefore need not be repeated, in treating of the effects of size.

*Examples.*—If the animal organs be large, and the organs of the moral sentiments and intellect small, the individual will be naturally prone to animal indulgence in the highest degree, and disposed to seek gratification in the directest way, and in the lowest pursuits. Pope Alexander VI. is an example of this combination, and his manifestations corresponded.

Pope ALEXANDER VI.



MELANCTHON.



If, on the other hand, the organs of the moral sentiments and intellect greatly predominate, the individual will be naturally prone to moral and intellectual pursuits ; such persons are "a law unto themselves." Melancthon, the great and virtuous reformer, is an example of this combination.

**RULE SECOND.**—As there are three kinds of faculties, Animal, Moral and Intellectual, which are not homogeneous in their nature, it may happen that several large animal organs are combined in the same individual, with several moral and intellectual organs highly developed. The rule will then be, that the lower propensities will take their *direction* from the higher powers ; and such a course of action will be habitually followed, as will be calculated to gratify the whole faculties whose organs are large.

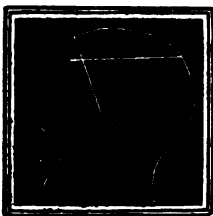
*Examples.*—If the organs of Acquisitiveness and Conscientiousness be both large, stealing might gratify Acquisitiveness, but it would offend Conscientiousness. According to rule second, the individual would endeavour to gratify both, by acquiring property by lawful industry. If both Combattività and Destructiveness be large, and Benevolence and Conscientiousness be as fully developed, it follows that while wanton outrage and indiscriminate attack might gratify the first two faculties, they would outrage the last two ; and hence the individual would seek for situations calculated to gratify all four ; and these may be found in the ranks of an army embodied for the defence of his country ; or the same object may be obtained by moral and intellectual warfare against the patrons of corruption and abuses in Church and State. Luther, Knox, and many other benefactors of mankind, were probably actuated by such a combination of organs.

If, in an individual, the cerebellum be very large, and Philoprogenitiveness, Adhesiveness, and Conscientiousness be deficient, he will be prone to seek the directest gratifications of the animal appetite ; if the latter

organs be large, he will perceive that wedlock affords the only means of pleasing the whole group of faculties.

If Benevolence, Self-Esteem, and Acquisitiveness be all large, giving charity may gratify the first; but unless the individual be very rich, the act of parting with property may be disagreeable to the last two faculties; he would therefore prefer to gratify Benevolence by personal kindness; he would sacrifice time, trouble, influence, and advice, to the welfare of others, but not property. If Benevolence were *small*, with the same combination, he would not give either money or personal service.

RULE THIRD.—Where all the organs appear in nearly equal proportions to each other, the individual, if left to himself, will exhibit opposite phases of character, according as the animal propensities or moral sentiments predominate for the time. He will pass his life in alternate sinning and repenting. If external influence is brought to operate upon him, his conduct will be greatly modified by it; if placed, for instance, under severe discipline and moral restraint, these will cast the balance, for the time, in favour of the higher sentiments; if exposed to the solicitations of profligate associates, the animal propensities will probably obtain triumphant sway. MAXWELL, who was executed for housebreaking and theft, is an example of this combination. In him the three orders of organs are amply developed; while subjected to the discipline of the army, he preserved a fair reputation; but when he fell into the company of thieves, he adopted their practices, and was hanged. The



lines are explained on page 28.

Talents for different intellectual pursuits depend on the combinations of the knowing and reflecting organs in certain proportions. Form, Size, Colouring, Individuality, Ideality, Imitation, and Secretiveness, large, with Locality small, will constitute a portrait, but not a landscape painter. Diminish Form and Imitation, and increase Locality, and the result will be a talent for landscape, but not for portrait, painting. Constructiveness and Weight combined with Tune large, may produce a talent for *musical* instrument making: without a large Tune, the other faculties could not take this direction. Constructiveness, combined with Size and Number large, may lead to *mathematical* instrument making: Causality combined with large Secretiveness, Ideality, and Imitation, will seek to discover the philosophy of the fine arts; the same organ combined with Benevolence, Conscientiousness, and Concentrativeness large, will delight in moral and political investigations.

The doctrine of the primitive functions of the faculties, explained in the first part of this work, and of the combinations now laid down, shews *why* Phrenology does not enable us to predict *actions*. Destructiveness, for example, is not a tendency to kill a man or a beast, as a specific act, but a mere general propensity capable of leading to destruction as its ultimate result, but which may be manifested in a great variety of ways (many of them justifiable, others unjustifiable), according as it is directed by the other faculties, which, in each particular instance, act along with it:—thus, acting along with large Acquisitiveness, and in the absence of Conscientiousness, it may prompt to murder; while, acting along with large Conscientiousness and Benevolence, it may deter persons from crime by the chastisement which it inflicts on those who infringe the law.



## ON MATERIALISM.

The question of Materialism is, Whether the *substance* of which the thinking principle is composed be matter or spirit? And the effect of our decision, let it be observed, is not to *alter the nature of that substance*, whatever it be, but merely to adopt an opinion consonant with, or adverse to, a fact in nature over which we have no control. Mind, with all its faculties and functions, has existed since the creation, and will exist till the human race shall become extinct; and no opinion of man, concerning the cause of its phenomena, can have the least influence over that cause itself. The mind is invested, by nature, with all its properties, and it will possess, and manifest them, let men think, and speak, and write what they will, concerning its substance. If the Author of Nature have invested the mind with the quality of endless existence, it will, to a certainty, flourish in immortal youth in spite of every appearance of premature decay. If, on the other hand, Nature have limited its existence to this passing scene, and decreed that it shall perish for ever when the animating principle passes from the body, then all our conjectures, arguments, discussions, and assertions, respecting its immortality, will not add one day to its existence. The opinions of man, therefore, concerning the substance of the mind, can have no influence whatever in changing or modifying that substance itself; and if so, as little can these opinions undermine the constitution of the mind, or its relations to time and eternity, on which, as their foundations, morality and religion must, and do, rest as on an immutable basis. According to Phrenology, morality and natural religion originate in, and emanate from, the primitive constitution of the mental powers themselves. Innumerable observations have proved that faculties and organs of Benevolence, Hope, Veneration, Justice, and Reflection exist. Now, our believing that the mind will die with the body, will not pluck these sentiments and powers from the soul; nor will our believing the mind to be immortal implant a single one more of them in our constitution. They would all remain the same in functions and constitution, and render virtue amiable and vice odious, although we should believe the mind to be made of dust, just as they would do were we to believe the mind to be a more immediate spiritual emanation from the Deity himself.

We are conscious only of feelings and emotions, of conceptions and thoughts; but whether these originate from matter or spirit—whether God, in creating man, was pleased to invest his material organs with the property of thought, or to infuse into him a portion of immaterial fire—consciousness gives us no information. A great deal of popular delusion has been kept alive on this subject, by the fact being overlooked, that we are not conscious of the operations of the brain. Men, in general, because they are sensible only of thought and feeling, and not of the movements of any material organs performing these acts of the mind, imagine that it is necessarily an immaterial substance which is thinking and feeling within them; but they are equally unconscious of the contraction and relaxation of the muscles, and they might as well imagine that their arms and legs are moved not by material organs, but by the direct impulse of spirit, as entertain the supposition in question. In short, the truly philosophical conclusion is, that, by means of consciousness, we are unable to discover of what substance the thinking principle is composed.

Observation reveals as little in regard to the substance of the mind as does reflection on consciousness. The brain presents nothing to our contemplation but an inert mass, of a soft and fibrous texture, in which no thought can be discerned and no sentiment can be perceived, and in which also no spirit or immaterial substance can be traced; so that from inspecting it, even imagination receives no food for conjecture as to the presence or absence of an immaterial guest, while life and health yet animated its folds. As no other modes of arriving at certain knowledge are open to man, the solution of the question appears to be placed completely beyond his reach.

The solution of this question, therefore, is not only impossible but unimportant; and this leads me to observe, that no idea can be more erroneous than that which supposes the dignity and future destiny of man as an immortal being to depend, of necessity, on the substance of which he is made.

Let us allow to the materialist, for the sake of argument, that the brain is the mind, and that medullary matter thinks,—what then? If in fact it be so, it must be the best possible substance for thinking, just because the CREATOR selected it for the purpose, and endowed it with this property. In this argument the religious constantly forget that the same OMNIPOTENT hand made the brain that created the mind and the universe itself, and that, in the dedication of every cerebral convolution to its object, be they thinking or any other process, the Divine Wisdom is as certainly exercised, as in impressing motion on the planets, or infusing light and heat into the sun. If, therefore, *de facto*, God has made the brain to think, we may rest assured that it is exquisitely and perfectly adapted for this purpose, and that His objects in creating man will not be defeated on account of his having chosen a *wrong substance* out of which to constitute the thinking principle. But what *are* His objects in creating man?

The true way of discovering for what end man has been created, is to look to the *qualities* with which he has been endowed, trusting that the substance of which he is composed is perfectly suited to the objects of his creation. When we inquire into the qualities, we find the thinking principle in him to differ, not only in *degree*, but in *kind*, from that of the lower animals. The latter have no faculty of Justice, to indicate to them that the unrestrained manifestation of Destructiveness or Acquisitiveness is wrong; they have no sentiment of Veneration to prompt them to adore a God; they have no faculty of Hope, pointing out futurity as an object of ceaseless contemplation, and leading them to desire a life beyond the grave; and, indeed, the convolutions of the brain, which in man form the organs of these sentiments, do not exist in the lower animals. Those organs, also, which in man serve to manifest the faculties of Reflection, are, in the lower animals, eminently deficient; and their understanding, in exact correspondence with this fact, is so limited as to be satisfied with little knowledge, and to be insensible to the comprehensive design and glories of creation. Man, then, being endowed with qualities which are denied to the lower creatures, we are entitled, by a legitimate exercise of *reflection*, the subject being beyond the region of the external senses, to conclude, on principles truly philosophic, that he is designed for another and a higher destiny than that which is allotted to them, whatever be the *substance* of which his mind is composed.

## WORKS BY GEORGE COMBE.

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10.  
PHRENOLOGY—ITS NATURE AND USES:

AN

# ADDRESS

TO THE

STUDENTS OF ANDERSON'S UNIVERSITY,

AT THE

OPENING OF DR WEIR'S FIRST COURSE OF LECTURES  
ON PHRENOLOGY IN THAT INSTITUTION,

JANUARY 7. 1846.

BY ANDREW COMBE, M.D.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH;  
ONE OF THE PHYSICIANS IN ORDINARY IN SCOTLAND TO THE QUEEN;  
CONSULTING PHYSICIAN TO THE KING AND QUEEN OF THE  
BELGIANS, AND CORRESPONDING MEMBER OF THE  
IMPERIAL AND ROYAL SOCIETY OF PHYSICIANS  
OF VIENNA.

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MDCCCXLVI.

NOTE.—A wish having been expressed by the Trustees that the following Address should be published, the author has at once assented to a proposal so entirely in accordance with the aim for which it was written. He thinks it right to add, that, having been unable, from the infirm state of his health, to attend personally, the Address was read to the audience by his brother Mr GEORGE COMBE.

## INTRODUCTORY ADDRESS.

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GENTLEMEN,

ON seeing a stranger present himself before you to deliver a lecture introductory to a Course on Phrenology, it will naturally occur to you to ask, Why does he occupy the place which belongs of right to Dr Weir? The answer to this question will be found in the following brief history of the origin and progress of Phrenology, and of the events which led to the institution of a Lectureship on the subject in this University.

From the earliest dawn of science, the attention of anatomists and physiologists, and, I may add, of philosophers also, has been earnestly directed to the study of the brain and the nervous system. Enveloped in obscurity as these important organs were, facts of daily and hourly occurrence nevertheless forced the conviction upon the minds of all reflecting men, that, whenever their functions should be discovered, they would be found to fulfil the very highest purposes in the economy of man. Even the most cursory observation was sufficient to shew, not only that the brain is the seat and centre of sensation, voluntary motion, thought, and feeling, but that it exercises a paramount, although often indirect, influence over the whole bodily organization. Under the pressure of deep grief, for example, every function is impaired, and the powers of life become more and more enfeebled, till death at last closes the scene, and the individual is said to have died of "a broken heart." Under the influence of the strong passion which accompanies maniacal excitement of the brain, the action of the heart is characterised by unusual violence, the circulation becomes rapid and tumultuous, and the whole system is so instinct with energy, as almost to defy restraint. Under the calmer and more equally dif-

fused excitement of hope and joy, the different bodily functions are raised in tone, and so agreeably stimulated, that all the operations of life are carried on with a vivacity and ease which at once enliven existence, and form the best safeguards against the inroads of disease. A blow on the head, or a powerful narcotic, on the other hand, may, by disturbing the action of the brain, produce absolute insensibility of both body and mind, and lay prostrate the highest genius. The bursts of mental power and extraordinary bodily strength developed during the delirium of fever, or under the use of wine or spirits, form equally striking and instructive examples of the predominant influence of the brain in the animal economy ; and its intimate connexion with the mind is perhaps nowhere exhibited with greater clearness, than in the regularity with which the different mental powers become developed and advance through the different stages of maturity and decay, in exact proportion as the brain itself passes from the imperfect development of infancy through *its* stages of maturity and decay.

These, and similar facts, all leading to the same conclusion, have forced themselves upon the attention of mankind in all ages and countries, and they form the groundwork of the almost universal conviction that the brain is, in some way or other, the seat or organ of the mind. An enlightened curiosity, however, does not stop short at this vague and general proposition—it seeks to discover farther under what conditions this association of mind with brain exists. It seeks to know whether, in producing and giving expression to the varied and complicated phenomena of thought and feeling, the brain acts as a whole or as an aggregate of many parts, each subserving a particular sense or faculty. For thousands of years philosophers have laboured to penetrate this mystery, but laboured in vain ; and yet, in every succeeding age, the constant recurrence of the same phenomena has kept alive in its fullest force the conviction, that the discovery of the functions of the brain and nervous system would be fraught with important advantages to science and to mankind ; both by explaining some of the profoundest mysteries of our being and position, and by affording principles of the highest utility for our future progress and improvement. Under this stimulus, inquiry never became apathetic, even when it seemed most unpromising. If it failed of success, this was not from want of zeal, talent, or perseverance, on the part of those engaged in it. The failure, as will be afterwards pointed out to you by my friend Dr Weir, arose solely from pursuing methods of re-

search which, because they were founded on a wrong principle, were incapable of leading to success. Not suspecting or perceiving where the error really lay, one physiologist after another, either entered upon the beaten path of his predecessors, without attempting to remedy the defects of method which had misled them,—or he *invented* a new *theory*, bearing the impress, not of nature, but of his own imagination, and of course failed in his turn to arrive at the truth. The anatomists also, from no lack of talent, zeal, or industry, but purely from a similar want of a guiding principle, expended their time in nearly profitless labour. Instead of attempting to trace the natural relations of the parts of the brain to each other, they continued for centuries to cut it into slices, and thus *destroyed, by their own act*, the very structure they wished to examine—a proceeding, the only parallel to which would be to examine the anatomy of a limb by slicing it transversely like a round of beef! Failing to arrive at any useful result by such destructive methods, they, too, had recourse to their imagination, and enlivened the dryness of their researches by the discovery of supposed resemblances of parts of the brain to natural or artificial objects, and believed that in giving names significant of these most grotesque resemblances, they were advancing the cause of science. Hence the learned application of the terms *nates* and *testes* to the quadrigeminal bodies. Hence the *aqueduct* of Sylvius, the *bridge* of Varolius, the *writer's style* or *calamus scriptorius*, and other equally unmeaning designations. From the same imaginative source was derived the fancy which gravely seated the soul in the pineal gland. Hence also the various “spirits” with which it pleased philosophers at different times to fill the ventricles of the brain! In reflecting on all these things, however, let us not give way only to a smile of ridicule or contempt. Seriously considered, these very vagaries indicated the strong and constant desire to arrive at the discovery of truths which were felt to be important. They sprang from no innate love of absurdity, but simply from zeal and activity of mind operating without a principle to guide them through the labyrinth which they sought to penetrate. If a man, set down in a new country, wanders in a direction the opposite of that in which he wishes to go, it is no proof that he is destitute of the power of motion. The greater, indeed, his power of walking in such circumstances, the farther will he be likely to go astray; but provide him with a sure guide, and then see how vigorously and safely he will advance! It is the same with the anatomist and physiologist; set them down without a guide to study the unknown



regions of the brain and nervous system, and the greater their talent, the farther will they be liable at times to wander from the way of truth. But once provide them with a guiding principle, and every step will then bring them nearer and nearer to the goal.

The more, indeed, we consider the nature of science and the history of the past, the more manifest does it become, that it has been the want of a sound method of investigation, and not any inherent difficulty in the subject, or any marvellous complexity of function, which has hitherto constituted the chief obstacle to success. Nature's laws and operations rarely remain wholly inaccessible to well directed and persevering inquiry, and they seem to be a maze of confusion and contradiction only when considered in a wrong point of view, or when examined apart from their natural relations to each other. When correctly understood, they generally present an aspect of remarkable simplicity. For a similar reason, many of the plainest of the laws or phenomena of nature appear the very image of incongruity to the untutored savage, who knows not how to trace the principle which binds them into harmonious connection. It is precisely thus with the anatomist of the brain and nervous system. If he has no sound principle to direct him where to begin, and how to proceed, many of his results must necessarily appear to him perplexing, incongruous, and inexplicable. By a lucky chance he may hit upon useful truths, which will remain like landmarks amidst the waste of error over which he has fatiguingly wandered; but he will do little to throw light upon the general scheme of Nature, and will often leave even his surest facts a subject of doubt to those who succeed him, simply because he cannot present them in harmonious connection with any other ascertained truths.

Here, then, is the source of the barrenness of results which has, in times past, so signally characterized most of the researches which have been made into the structure and functions of the brain and nervous system. False methods of inquiry, and not any insuperable difficulty in the subject, have been the causes of failure; and it is most important that at this your outset in a new study, you should fix your attention strongly on this fact, and satisfy yourselves of its foundation. If the method which Gall has followed be really superior to any hitherto in use, it becomes no longer wonderful that he should have succeeded in unfolding, to a greater extent than his predecessors, not only the real structure of the brain, but many of its most important uses; or that he should have put you in possession of means whereby you may, in

your turn, correct his errors, and improve what he and his followers may have left imperfect. I shall, in a subsequent part of this lecture, explain his method; but, in the mean time remark, that if I shall assign adequate causes for so many centuries of failure by other physiologists, and for the success which has attended the labours of Gall, it will follow, as a matter of course, that any condemnation of his discoveries, by those who have never zealously pursued his method, but derived their knowledge wholly from methods proved to be utterly inadequate, must be held, in the eye of reason, as of scarcely higher value than would be the hostile opinion of any uneducated man regarding any disputed point in modern chemistry, optics, or electricity. Ignorant as such an opponent must be regarding the uses of the brain, it is impossible that he *can* have anything except theory or early prejudices to oppose to the facts of Phrenology; and for these I have no respect as sources of evidence. I am as much disposed as any one to yield deference to authority, or to opinions based upon certain and positive knowledge, however much they may militate against my own prepossessions; but where mere opinion is brought against what I know, from direct, careful, and repeated observation, to be *clear* and *positive facts*, no matter how eminent the source of the opinion may be, I stand firm and unmoved, because Nature is at my back, and I have the fullest assurance that she commits no mistakes, and is never inconsistent; and I know that, on appeal being made, she will be found to speak the same language to-day as yesterday, or as a thousand years ago, and to bear out all I have advanced, if I have really been accurate in my observations.

To place this argument before you in its full force, it would be necessary, if your time permitted, to expose, in some detail, the inherent defects of the different methods of investigation resorted to before the days of Gall. This will be done more fully at a subsequent part of the course, by my friend Dr Weir. In the mean time, it will be enough for my purpose to state, that anatomists have tried to discover by dissection the uses of the different parts of the brain; but unaided examination of structure has never yet been sufficient to reveal the function of an organ; and, even if it did, the structure of the brain is, or was till very lately, as little known as its uses. We might dissect the optic nerve till the crack of doom, without being enabled, by that means alone, to demonstrate that its use is to convey visual impressions from the eye to the mind. It is by observing the concomitance of the faculty of vision with the existence and deve-

lopment of the nerve, and the effects of its diseases in destroying sight, that we arrive at the discovery of its function. *Having once made this discovery*, anatomy steps in to confirm its truth, by shewing its consistency with the relations of the nerve to the eye on the one side, and the brain on the other. It is the same with the nerve of hearing, with the nerves of sensation and motion, and, indeed, with every part of our bodily structure. We might dissect them all for centuries, apart from observation of the living phenomena, without being thereby enabled to discover their uses. A familiar proof of this is to be found in our still remaining ignorant of the functions of the spleen and thyroid and mesenteric glands, and of parts of the brain itself, of which the structure is now pretty well ascertained. Even the structure of a muscle, plainly as it speaks *after* we perceive its function, does not, of itself, suffice to teach us that its office is to contract. It is by observation of the actual concomitance of contraction and structure that we first ascertain the fact. Dissection may prove the *compatibility of function and structure*, *after the function is found out by observation*, or disprove an alleged function, by shewing its incompatibility with *well ascertained* structure; but, in the case of the brain, neither of these principles can be very safely applied, because the structure itself is even yet too imperfectly known to lead to positive results; and hence, among those who reject the discoveries of Gall, there is to this hour no agreement whatever regarding the functions of the different parts of the brain—whereas, if structure revealed function, there would be unanimity amongst them.

Metaphysicians, on the other hand, have attempted to solve the problem of the cerebral functions by the aid of *Consciousness*; but their failure has been equally signal. So far from revealing to us the uses of different parts of the brain, consciousness does not even reveal its existence. We know that there is *something* within the skull, but we have not a trace of information from consciousness what it is, how composed, or what its form. If it had been possible to discover the functions of the brain by reflecting on the phenomena of our own consciousness, they would not now have continued to prove as great a stumbling-block to the modern as they did to the ancient metaphysicians; and I need only appeal to yourselves, and ask what amount of information you can derive regarding the operation of your own brains, or of any internal function, from consciousness alone. Did consciousness enable any one to anticipate Harvey's discovery of the circulation of the blood? or does it throw any light on the

phenomena of digestion or of respiration? None whatever. We know that we breathe and digest, but we are left to find out, by observation, both the manner and the mechanism; and it is the same with the brain. We have a kind of consciousness, that we think and feel by means of our heads; but none whatever that our skulls contain brain, much less of the uses of its component parts, or of its particular uses even as a whole.

The only other channel through which information has been sought, and sought in vain, is the study of the effects of injuries and diseases of the brain, and the effects produced by mutilating the brains of animals. Dr Weir will, by and by, demonstrate to you the inadequacy of this method also, to furnish the information required. Suffice it for me to say, that it is not amidst the suffering of disease, or the general disturbance of system caused by wounds or mutilations, that healthy regularity of function is to be found. Where any part of the nervous system is concerned and suffering is excited, general results become too much mixed up with those which are local, to admit of being properly discriminated; and, accordingly, not one new fact of any radical importance to the physiology of the brain in its connection with the mind has yet been demonstrated by this method of inquiry, notwithstanding the many and persevering efforts made in recent times to turn it to account; and, except for the light thrown upon its results from other quarters, many of them would remain before us nearly as destitute of meaning as at first.

Such, then, was the state of the physiology of the brain down to the time of Dr Gall, and such continues to be essentially its state even now, among those who reject his discoveries. If, therefore, any adherent of the old methods of inquiry should happen, in your presence, to enlarge upon the demerits of Phrenology or the presumption of its disciples, you need be under no alarm for the consequences; you may at once turn the attack against himself, by requiring him to shew what he can put in its place. If he has made any discovery of his own of the functions of the brain, he must be a very modest man indeed, to hide its brilliancy under a bushel; for, as yet, nobody has claimed any such merit. If, therefore, Phrenology contain *any portion* of truth, science can only gain by its candid and unprejudiced examination; and you are interested in exact proportion to the amount of truth which it embodies, in not rejecting it heedlessly or unexamined.

But what, then, you will ask, *is* this boasted method by which Gall has derived such a rich harvest from a field

which others have cultivated with so little success ? The answer is simply, that, in investigating the functions of the brain, he has followed the same principle which, applied to other organs, has led to the discovery of their functions, but which, from various causes, had never before been systematically applied to the brain. When the physiologist wished to ascertain the function of any particular organ of the body, he did not rest satisfied with examining its structure, and speculating on the purposes for which that structure seemed in his eyes to be adapted. He began by direct observation, and watched what kind of function *appeared during life as the invariable accompaniment of the presence and action of that particular part*; and, by repeated and careful observation, he at last succeeded in discovering the functions. The knowledge thus obtained was afterwards verified, confirmed, and completed, by the examination of structure, and the observation of the effects of its injury or diseases.

It was by this method that the liver, for example, was proved to be the secreting organ of the bile, many centuries before its true anatomical structure was ascertained. This fact being once arrived at, its truth was confirmed by observing, further, that bile is met with only in animals in which a liver also is found, and that its secretion varies in amount with the development of that organ, and is affected by its diseases. The same with the kidneys: observation, during life, of the concomitance of organ and function, is the *first source* of all our authentic knowledge of the part they perform in the animal economy; and it is only *after* having thus ascertained that they serve to secrete the urine, that we become enabled to extend and complete our information, and to trace the true relation of structure to function. Even of the muscles, our knowledge has been acquired in the very same way: we *observe*, in the living body, the concomitance of muscular motion with muscular fibre, and thence infer that its function is to execute motion. Here, then, is the very principle which Gall has succeeded in applying to the elucidation of the functions of the brain; and he was led to its adoption by an accidental observation at school, of the concomitance of a particular kind of talent with a peculiar appearance of the eye, which he found afterwards to be caused by the development of a particular part of the brain. At school, at college, and in many other places, and under wholly different circumstances, the same concomitance of talent with development of brain came under his notice so frequently, as to arrest his attention to the probable or possible success which might attend the application of a similar mode of discovering

a connection betwixt other mental talents and the development of other portions of the brain. In this respect Gall resembled in no small degree the illustrious Newton, who, from the accidental fall of an apple at his feet, was led to the discovery of the law of gravitation. Like Newton, having once obtained the clue, Gall never lost his hold of it as a guide to discovery; and he found it, on trial, to prove like a lamp to his feet, in the investigation of nature.

It was by the persevering application of the method of inquiry which accident had thus suggested to him, and not, as many suppose, by an effort of imagination, that Dr Gall was at last enabled to place the physiology of the brain upon a solid foundation, by demonstrating, *first*, that the brain is an aggregate of many different parts, each serving for the manifestation of a particular mental faculty; and, *secondly*, that, *all other conditions being equal*, the size of each of these cerebral organs is an index of the power of its function. These two propositions, as will be afterwards fully explained to you by Dr Weir, constitute the distinctive or fundamental principles of Phrenology. The first of them, however, is not new. The impossibility of reconciling actual phenomena with the notion of a single organ of mind has, for many centuries, suggested the probability of a plurality of organs; and it is stated, that, influenced by this incompatibility, the great Haller, among others, "*felt a necessity for assigning different functions to different parts of the brain;*" just as, for a similar reason, many physiologists felt a necessity for inferring that the nerves of sensation and motion must be different. But it remained for Dr Gall to *demonstrate* the fact of a plurality of organs in the brain; just as it did for Sir Charles Bell to demonstrate the distinction between the different kinds of nerves; and before the conclusion of this course of lectures you will be better able to appreciate the merit and consequences of this demonstration than you are now. At present I need only allude to an objection sometimes inconsiderately made by medical men against the possibility of the existence of any such cerebral organs—namely, that, on looking at the brain, no visible separation between its constituent parts can be detected, such as we see in the organs of the five senses. On examination, the whole force of this objection is found to depend on overlooking the very different nature and functions of the internal and external faculties. The organs of the five senses require to be distinctly isolated from each other, because, from their being the media of communication with the external world, each requires a distinct apparatus to place it in harmony with the kind of impressions it is destined to receive and transmit to the brain.

The eye, for example, being adapted in structure to the rays of light, is unaffected by impressions of sound ; and the ear, being adapted to atmospherical vibrations, is unaffected by the rays of light ; and hence each of the senses has, and must necessarily have, a specific apparatus for itself, so distinct in its mechanism from that of the rest, as almost to preclude the possibility of the organs being grouped together in close connection with each other. With the organs of the internal faculties, however, no such necessity exists for their absolute separation. On the contrary, their complete isolation would serve only to impede that consentaneity and harmony of action among several of them which is required in almost every mental operation. Accordingly, the objectors forget that, even in the case of the nerves of sensation and motion, where simultaneousness of action is often indispensable to the due regulation of our movements, a still more intimate connection of fibres of different kinds, and performing distinct functions, exists for a similar purpose ; and that it was precisely this apparent blending of two sets of nervous fibres which so long misled physiologists to the belief that the nerve was a single organ, consisting of fibres serving equally for sensation and motion. This hasty and erroneous inference was arrived at in the face of many opposing physiological phenomena, solely because, on examining the really compound nerve, no visible distinction could be traced between its two sets of fibres ; and it remained for Sir C. Bell, in the nineteenth century, to demonstrate their actual existence, and thus to reconcile their structure with the functions which they were ascertained to perform. The objectors forget, also, that a similar peculiarity characterizes the spinal marrow, and was equally the cause of the obscurity in which the distinct functions of its constituent parts were so long involved. In all ordinary circumstances sensation and motion, irritation and reflex action, are most intimately associated ; because the one is the exciting cause, and, in one sense, the director of the other : but on some occasions, and more especially in morbid or abnormal conditions of the system, their distinct and independent operation becomes so evident as to be explicable only on the idea of a corresponding plurality of nerves.

The very same principle applies to the different cerebral organs which serve to manifest the different primitive faculties of the mind. In most mental operations, associated action of several of the primitive faculties is almost indispensable to the accomplishment of their object ; and to admit of this at once consentaneous and combined action of several faculties in themselves distinct, their cerebral organs must be

in intimate connection with each other ; and, accordingly, such is found to be the order of nature.

But, it may be argued, if the internal faculties of the mind generally act in combinations of a greater or less number, does it not follow that the brain must, as a single organ, serve for the whole of them, instead of each having a part of the brain appropriated to itself? This conclusion, however plausible it may seem, would be as fallacious as the similar inference of the identity of the nerves of sensation and motion, from the general fact of their combined and consentaneous action. It is true that several of the faculties are generally active at the same time ; but their elementary distinctness and independence of each other are shewn, not only by their different degrees of strength bearing no constant relation to each other, but by the ever-varying combinations, in number and in kind, in which they manifest themselves. For if they were all general results, of one general power, operating through one organ, there would be in all instances a fixed proportion in the manifestations of feeling and thought, and a definite order in their sequence and arrangement, in harmony with the unity of action of a single organ. This is not the occasion on which to enter more fully into the objection ; but I trust that I have said enough to satisfy you, that it is in reality more specious than sound, and that it is refuted both by direct evidence and by the analogy of other parts of the nervous system, the functions of which are now well ascertained.

Of the truth of the two fundamental principles of Phrenology, and of the possibility of applying them successfully to the discovery of the functions of the different cerebral organs which serve to manifest the different mental faculties, it would be easy for me to adduce ample evidence, were this the proper time to do so. That, however, will be afterwards satisfactorily done by your able lecturer. For the present, I must be allowed to assume their truth, and on this assumption to press upon you the necessity of examining both the facts and evidence for yourselves. You cannot with safety continue to neglect this inquiry ; because the truth is advancing while you are inactive, and you are not in possession of any other knowledge which can warrant you in condemning the claims of Phrenology untried. In common fairness, you are bound at least to make yourselves acquainted with both sides of the question, and to suspend your judgment till you have done so. I may go farther, and urge what to many will seem still stronger grounds for recommending you to give Phrenology a fair hearing. Your own interest is deeply con-



cerned in your decision. If Phrenology be true, and if you remain unacquainted with its principles and facts, you will soon find yourselves left behind by those who have had the courage and sagacity to follow the guidance of truth. If true, there is no branch of knowledge which can be of more direct practical interest and utility to the physician or to the philosopher. If true, it furnishes a key, not only to the physiology of the brain and nervous system, but to the philosophy of the mind; and, as such, there is scarcely any form of disease, on the nature and consequences of which it is not calculated to throw some light, or in the treatment of which it does not afford valuable aid.

Many suppose that it is only in cases of insanity, that a knowledge of the physiology of the brain is of any great consequence to the physician. In the discrimination and treatment of every form of nervous and mental disease, it is indeed invaluable, or rather, I may say, indispensable; but from much experience I may further add, that there is scarcely a case to which a medical man can be called, in which an acquaintance with Phrenology will not smooth down difficulties and afford him efficient aid, both in regulating the treatment, and in dealing with the friends of the patient, so as to secure their hearty and complete co-operation. The afflicted are beginning to make this discovery for themselves; and the day is gone by, when advocacy of Phrenology was an objection to a medical man. The bias is now turning the other way; and I have myself received many applications for advice from invalids in different parts of the kingdom, who stated that they were induced to consult me by a belief that Phrenology would throw light upon their ailments. In ordinary private practice, also, the utility of Phrenology is already appreciated by many; and professional men who understand it, are sought after in preference to men of equal skill who remain in ignorance of its value. Here, again, I speak from actual experience; because, since bad health compelled me wholly to relinquish the exercise of my profession, I have repeatedly been applied to by invalids to recommend an adviser who was well acquainted with Phrenology. Indeed, it is to the actual experience of its benefits by a former patient, that you are indebted for being now assembled in this hall. The late W. R. Henderson, Esq., devoted much time and attention to its study, and became deeply impressed with the services it was destined to render to mankind. In his own person and under many drawbacks, he had, both during health and in disease, experienced its practical utility, and thence became more fully aware of the numerous and

beneficent applications of which it admits, to the relief of suffering, as well as to the moral improvement of man. Under this conviction, he resolved to do all in his power for its more extensive diffusion. With this view, some years before his death, he devoted part of his leisure to the delivery of lectures on the subject to the working classes of Gala-shiels, in the neighbourhood of which he then resided. An impediment in his utterance rendered this effort less successful than it would otherwise have been; but to secure the more effectual and permanent attainment of his object, he made a will, by which, after providing annuities for several friends, he bequeathed all his property to Trustees, to be devoted to the more extensive diffusion and cultivation of Phrenology; and specially recorded, that he did so from no transient fit of enthusiasm, but from a calm, well-considered conviction of the truth and practical value of Gall's great discovery. He lived for four years after making this will; and his conviction that he had done wisely in dedicating his funds to such a purpose became only the firmer. Need I add, then, that, in now providing an endowment for a lectureship on Phrenology in this University, Mr Henderson's Trustees, of whom I have the honour to be one, and as whose representative I now address you, are merely acting in the spirit of the instructions which he left for their guidance, and thereby fulfilling the aim which he had in view. To them, indeed, there seems to be a peculiar appropriateness in this particular application of the Henderson Trust, which renders the present duty doubly gratifying to them. Looking to the motives which actuated Mr Henderson, and to those which actuated the founder of this Institution, in making their respective bequests, what could be conceived to be more congenial in nature and in spirit? In proof of this, I need only read an extract from Mr Chambers' biographical memoir of the late Mr Anderson. After his appointment to the mathematical chair in the College of Glasgow, says Mr Chambers, Mr Anderson "entered upon the business of his class with an enthusiastic ardour of application which we may safely pronounce to have been without example in any Scottish university. Not contented with the ordinary duty of delivering a course of lectures—though he performed the duty in a manner alone sufficient to obtain distinction—he was indefatigable in studying and exemplifying the application of science to mechanical practice; visiting, for this purpose, the workshops of artizans in the town, and receiving, in return for the scientific doctrine which he had to communicate, a full equivalent of experimental knowledge. The

most estimable characteristic of Professor Anderson was a liberal and diffusive benevolence in regard to the instruction of his race. Under the inspiration of this feeling, which was in that age more rare, and therefore more meritorious than it is at present, he instituted, in addition to his usual class, which was strictly mathematical, one for the working-classes, and others, whose pursuits did not enable them to conform to the prescribed routine of academical study, illustrating his precepts by experiments, so as to render it in the highest degree attractive. He continued to teach this *anti-toga* class, as he called it, twice every week, during the session, to the end of his life; and it would not be easy to estimate the aggregate of good which he thus rendered to his fellow-creatures."

From the preceding extract, and from what I have mentioned regarding the motives of Mr Henderson's bequest, it is evident that both testators were induced to make the arrangements we are now reaping the fruits of, by the anxiety they felt to insure, long after they should have themselves mouldered into dust, the continued and wide dissemination of useful knowledge, as the surest way of benefiting and improving their fellow-creatures. In like manner, the Managers of this Institution, acting in a kindred spirit, discarding the narrow prejudices which have retarded the progress of Phrenology as of every other great discovery, and looking only to your advantage, have cordially welcomed the proposal of Mr Henderson's Trustees to establish a Phrenological Lectureship within your walls; and I feel assured, that, so far from ever having occasion to regret their liberality, they will one day be glad to have it in their power justly to boast that the University over which they preside was the first to teach the new philosophy as a branch of science.

Another circumstance which adds to the appropriateness of the present lectureship, is the rising eminence of your Institution as a school of medicine, and the increasing number of professional students who are attracted to its halls. Phrenology, considered as the philosophy of the mind, must be deeply interesting to all classes of reflecting and educated men; but to the intelligent and well educated medical man it offers still more powerful points of attraction, by presenting to him, for the first time, a firm foundation for a true and complete physiology of the brain. In this point of view it will, I am confident, speedily become an *indispensable* branch of knowledge to every physician who desires to keep pace with the progress of science, and to maintain his place either in general society, or among his well educated brethren. Conscientiously

entertaining this belief, I cannot but rejoice that you have been provided with an opportunity of becoming acquainted with the nature and evidences of Phrenology, and with its applications to the treatment of disease; and I would strongly urge you not to let slip the facilities which Dr Weir will afford to you of forming your own judgment, on the only safe ground—that of examination of evidence. Dr Weir is well qualified to be your guide, and he is not untried. He has been long known to you as a successful teacher of medicine, and as an able physician. He has already lectured on Phrenology; and from him you will learn all that is requisite to enable you to prosecute with advantage your own farther researches into the anatomy, and the physiology and pathology, of the nervous system. He will prove to you, what many are anxious to conceal, that Gall's merits are not confined to the physiology of the brain; and that, on the contrary, it was he who, by abandoning the old plan of slicing this organ like a cheese, and adopting the rational method of tracing its elementary structure as it exists in nature, first gave the impulse and the direction which, in recent times, have done so much to improve our knowledge of the anatomical relations of the different parts of the brain to each other, to the spinal marrow, and to the nerves; and that such men as Reil, Blumenbach, Blainville, and Cuvier, did not disdain to acknowledge their obligations to him as an anatomist, even while they doubted his physiological doctrines.\* Dr

\* Bischoff mentions in the preface of his *Exposition of Dr Gall's Doctrines*, that Reil, after witnessing the dissection of the brain by Gall in 1805, said, "I have seen in the anatomical demonstrations of the brain made by Gall, more than I thought that a man could discover in his whole life."—(See *Phrenological Journal*, vol. vi. p. 307). Blumenbach, in like manner, writes to his friend Dr Albers of Bremen, in September 1805—"I need not inform you, that I congratulate myself uncommonly on having heard Dr Gall, and become more intimately acquainted with him. His lectures were equally interesting and entertaining to me."—*Phrenological Journal*, xix., 41. The celebrated comparative anatomist and professor, Blainville, again, in his *Report on Foville's Anatomy of the Brain*, read to the Academy of Natural Sciences, on 28th June 1828, "placing truth above selfishness, declared," says Dr Spurzheim, "that Gall and I have given to the researches of the brain and nervous system, an impulse and direction altogether new; that this new direction has diverted anatomists from the beaten track to which they had attached themselves before our labours; and that, if we had done nothing but this, and were all the points of our anatomy to be successfully contested and completely refuted, there would still remain to us the honour of having discovered a new impulse, and that, consequently, to us must be referred, as to its source, all that may be valuable in future labours on that subject."—*Phrenological Article of the Foreign Quarterly Review*, by Richard Chenevix, Esq., F.R.S., with Notes by J. G. Spurzheim, M.D. 8vo. Anderson,

Weir will prove to you farther, that, in proportion as the principles of Phrenology have been examined and tested by extensive observation, they have been adopted and appreciated both in and out of the profession, and have made their way into books and practice, in an open or unavowed manner, to a far greater extent than those who look only at the silent surface of things are apt to suppose; and that hence we may expect their future progress among men of science to become every day more rapid. It is now fifty years since Gall proclaimed his discovery to the world, and surely half a century of active and determined hostility would have been sufficient to extinguish a system such as his, had it really been based on error and assumption, as it was said to be! And yet so far from being extinct, Phrenology gives every day new signs of increasing vitality. The works in which it is expounded have been sold to a large extent, and yet their sale still continues steady and regular. Does not this simple fact betoken an inherent interest in the subject, which, because truth is on its side, no misrepresentation can destroy? Even in Germany, from which Phrenology was expelled almost at the instant of its birth, it now rears its head, and gives indications of vigorous and enduring vitality. Germany not only possesses a journal devoted to Phrenology, and published regularly at Mannheim, but there is every reason to hope that, in the University of Heidelberg, the very focus of the celebrated Tiedemann's active opposition, a lectureship similar to your own will shortly be established, and given to Dr Scheve, who has already made himself advantageously known by his labours in the cause.

Many other facts might be referred to in proof of the increasing interest with which Phrenology is regarded, more especially among medical men; but time forbids me to enter upon them. Many who believe in and make use of its principles, are still afraid to avow the fact, from a dread of suffering in the estimation of their patients; but others are acquiring confidence in the force of truth, and proclaiming their convictions. The number of the latter is happily on the increase; but so many are still under the influence of apprehension, that it is those only who are either sufficiently acquainted with the subject to detect its features through the thin disguise, or are admitted to the confidence of the more cautious followers of Phrenology, that can form a cor-

Edinburgh. 1829. See also *Phrenological Journal*, vi. p. 307. I may add, that I have heard Blainville express similar sentiments, in equally strong terms, in his lectures in Paris.

rect estimate of its actual progress. Being myself in the enjoyment of both of these means of judging, I have no hesitation in expressing my conviction that the new physiology of the brain is daily extending its influence, and that ere long all timid reserve will be thrown aside, and even credit be claimed by many for a conversion which they are still anxious to conceal. The indications to be derived from the state of the medical press, both in this country, in America, and on the Continent, lead to the same conclusion. In the United States and in France, especially, the principles of Phrenology are as unhesitatingly adopted in many practical works, as if their truth had never been doubted by any one. In England also, they have found their way into many recent publications, where they can easily be recognised by those who have studied the subject. Among our professional periodicals, again, the ablest and most influential of them all—Forbes's British and Foreign Medical Review—has, within the last few years, and in several articles, enforced on its readers the necessity of investigating the phrenological physiology; and for many years past, the Medico-Chirurgical Review and the Lancet, and more recently the Medical Times, have advocated still more strongly its claims to attention. I have reason to know, indeed, that the conductors of both the Lancet and Medical Times have recently expressed a desire to give their readers reports of phrenological lectures. Significant as these signs are, I must refrain from commenting farther upon them; your own reflection will suffice to elicit their meaning.

But, Gentlemen, I have still a word or two to address to the more general part of my audience. Many are now present who do not belong to the medical profession, and they may naturally ask, What interest can Phrenology have for us, who also are invited to attend? My answer is, that it has *much*. If Phrenology be true, it is destined one day to unfold the whole philosophy of human nature; and, therefore, to all who live in society, and wish either to improve themselves or exercise an influence over others, Phrenology is of indisputable use. By unfolding to us the nature and sphere of action of the different powers of intellect and moral feeling and their laws of operation, it throws a flood of light on the principles of education, on the moral government of the world, and on the means for elevating and improving the condition of all classes of society. In the regulation of our own conduct, in the training of our children, and in our whole social intercourse, whether for business or for pleasure, it steps in with a helping hand, of

which those who have experienced its efficiency can best appreciate the practical value. I could point to educators among yourselves who avow that they owe to its aid almost the whole of the superiority and success which have distinguished their career; I could point to parents who have experienced its blessings in the management of their families, and who would not give up its assistance for any consideration which could be offered to them; and, lastly (to come to my own experience), I have, for many years, declared that my obligations to Phrenology, both in my private and professional capacity, are very great—greater, indeed, than to any other single branch of science. When I began to avow belief in its doctrines at the outset of my career, I was warned that if I persisted in doing so, it would prove an almost insurmountable barrier in the way of my professional success. Trusting to the sustaining power of truth, I continued, nevertheless, to avow my convictions, and to advocate its cause, whenever the occasion required it; and the result amply justified the reliance which I placed on the omnipotence and stability of truth. My advocacy of Phrenology did *not* prove any impediment in my professional career; on the contrary, it in many respects extended my field of usefulness, and greatly contributed to my happiness, by giving a more definite and consistent direction to the faculties which I possess. No doubt, some who might otherwise have employed me, were at first deterred, by their prejudices, from doing so; but their place was more than supplied by others, who, in their turn, would not have sought my advice except for Phrenology; and, ere long, many even of the prejudiced ventured to return, and ultimately took place among my warmest friends. The truth is, that, in the long run, professional success or failure does not depend on a man holding this or that particular opinion which happens, for the moment, to be popular or the reverse. Success depends almost entirely on professional skill and attainments, on general soundness of judgment, on readiness in resource, moral integrity, kindness of disposition, discretion, and persevering industry. These are the qualities which elicit confidence in the hour of danger; and you may depend upon it, that if you give decided evidence of your possessing them in a high degree at the bedside of the patient, you will compel even the most prejudiced of your opponents to respect your opinions on this as well as on other subjects, even while they may differ from you. In the private relations of life, also, I have derived the utmost advantage from the lights of Phrenology, and have gained a firmer hold on the confidence of my patients, by pointing out

to them its great practical value in conducting the intellectual and moral training of the young, in promoting mutual forbearance and general kindness of intercourse, and thereby adding to their general means of happiness. It is for Dr Weir to dwell upon all these points in detail; here I can only give you, in a few imperfect words, the general results of my own experience, and leave you to attach what importance to them you may think they deserve. I owe this testimony to Phrenology; and now that I am cut off from the active duties of life, I rejoice in the opportunity once more afforded to me of repeating it before such an assembly as the present. Some among the young and ardent minds who now listen to my words may be impressed by them, and stimulated to the study of a science which, rightly used, may not only greatly contribute to their professional success, but amply repay them for their trouble, by its utility in every relation of life.

But while I estimate thus highly the value of Phrenology, it is right to warn you that it is of Phrenology as it exists in the minds of its well informed cultivators after years of study and observation that I speak, and not of the fancy which many substitute for it in their own minds, and designate by its name. Of the latter kind of Phrenology, nobody can have a lower opinion than I have. It neither is nor ever can be of any use, either to its possessor or to others. The Phrenology which I have here recommended to you is a science which cannot be mastered or judged of in a day, in a week, or in a month. Like other sciences it must be studied before it can be known. Many entertain the notion that they have only to read a book or a pamphlet to qualify themselves to estimate its bearings, and pronounce authoritatively on its merits. This is a grand mistake; as well might we expect to become the equals of Liebig or Faraday, by reading a volume on chemistry. Till we become acquainted with Phrenology in its details, with its evidences, and with its manifold applications to medicine, education, and morals, we are in truth as incapable of forming a correct opinion of its nature and uses as we should be of those of chemistry while in a similar state of ignorance.

I am aware that, by many persons, medical men are supposed to be qualified by their professional knowledge to pronounce an *ex cathedra* opinion without any previous study of its doctrines; but, speaking again from experience, I have no hesitation in seriously affirming that this also is a gross delusion. A medical man enjoys many facilities for becoming acquainted with and verifying the truth of Phrenology, but



he possesses no intuitive or acquired power of judging without careful examination in this department of science more than in any other. In my own case, I was so far from being conscious of the possession of any such power, that it was only after witnessing the examination of many brains in the extensive hospitals of Paris, that I became convinced that the skull really represents the configuration of its enclosed brain; and it was only after upwards of two years of observation, and meeting with many striking instances of the concomitance of the development of particular cerebral organs with the possession of the corresponding mental powers, that I became assured of its truth, and aware of its many important applications. Singularly enough, too, it was while attending the clinique of the philanthropic Esquirol, who was himself opposed to Phrenology, that my faith in its truth became fixed. As I was then investigating the subject, I became a regular attendant at the Salpêtrière, for the double purpose of studying the nature of insanity, and of ascertaining how far its phenomena were explicable by means of Phrenology. For the first two or three weeks, every thing which I saw, and every description which dropped from the lips of Esquirol, coincided so completely with the representations given by Gall and Spurzheim, that I could not help regarding Esquirol himself as a convert. Judge, then, of my surprise, when, calling one day for Dr Spurzheim, and expressing this opinion to him, he significantly said to me—“Yes, Esquirol’s *lectures* are phrenological, because he faithfully copies Nature, and Nature and Phrenology are one: but personally he is an opponent.” Astonished at this statement, I replied, that surely he must have recently changed his views, as every word that he uttered seemed to me to embody the doctrines of Gall and himself. My lamented friend smiled, and answered, “Oh no! Esquirol has not changed; wait, and you will see. One day he will speak out his opinion.” The event entirely justified Dr Spurzheim’s prediction. Esquirol *did* ultimately speak of Phrenology by name, and he did so only to declare his dissent from its tenets. In the very few reasons, however, which he assigned for his scepticism, there was not, in reality, a shadow of ground to justify his hostile conclusion. On the contrary his mode of classifying and explaining most of the phenomena, seemed to me to imply, not only an acquaintance with, but a belief in, at least, the general principles of Phrenology. This was also the exact state of his opinions on the subject when I revisited the asylums of Paris twelve years afterwards (1831). While kindly conducting me through the wards of Charenton, M.

Esquirol mildly repeated his disbelief, and referred, in support of it, to objections which were either palpably irrelevant, or based entirely on misapprehension of Gall's statements. The singular contradiction between Esquirol's facts and inferences made a strong impression on me on both occasions; and he himself seemed in some degree sensible of its strangeness, for, in his lectures, his mention of Phrenology was very slight, and he never again referred to it by name, but went on as before, unconsciously making every day new use of its principles and adding new force to its evidences.\* That I was not mistaken in regarding the cases which he brought under our notice as confirmatory of its truth, may, I think, be fairly presumed from the circumstance that the celebrated Georget, his own friend, relation, and disciple, who lived for years in the midst of those cases, not only became an avowed phrenologist, but, by his phrenological writings on insanity, did much to diffuse those sounder views of its nature and treatment, which are now effecting so much good, and for which he was, in no small degree, indebted to the able work which Dr Spurzheim published shortly before on the same subject.

Having gone through this long and varied course of inquiry before I became fully aware of the extent and importance of the subject, I need scarcely say, that I feel as little respect for the favourable opinion of those who style themselves "great believers," formed on the evidence of an hour's study, or of two or three lectures, as I entertain for the hostility of those who, on equally slender grounds, reject its claims. Of the two, indeed, the "*great believer*" is perhaps the more dangerous enemy, for his credulity is apt to excite disgust in the minds of more thoughtful and philosophical men who happen to meet with him, and erroneously assume him to be a fair representative of the doctrines which he only brings into contempt.

But while I inculcate the necessity of patient inquiry, as the only means by which to acquire a competent acquaintance with the practical details and applications of Phrenology, I should be sorry were any one of you to be deterred from studying it by an exaggerated estimate of its difficulties. In this respect it possesses a great advantage over the ordinary systems of mental philosophy, many of the doctrines of which are so abstract as almost to defy comprehension. Even while I write, a document has been put into my hands, in which the superior intelligibility of Phrenology is so clearly stated, that I cannot do better than

\* The reader will find a more detailed examination of M. Esquirol's opinions on Phrenology in the *Phrenological Journal*, viii., p. 663.

use its words. The document referred to is a prospectus just issued by the Phrenological Society of Paris, offering a prize of 1000 francs (called, from the name of the donor, the *Prix Pecoul*) for the best essay on the application of Phrenology to metaphysical analysis. After alluding to the contradictory vagueness of most metaphysical speculations, the writer continues:—"It is important to remark, that the propositions of Phrenology concerning the nature of man, and that of the animals most nearly allied to him, are precise, and have the great merit of resting upon real data, easily tested by facts which everybody can observe; while in the philosophy of the schools, human nature remains an enigma, or at least a purely ideal conception, abounding so much in hypotheses wholly unconnected with experience, that neither teacher nor moralist, nor judge nor legislator, can derive from them any of the principles which are so much wanted to guide them in the action they exercise on each other, on individuals, and on society." In the justice of these remarks I entirely concur; and I would add, that, from the light which Phrenology throws upon many of the most intricate phenomena of human nature, there is scarcely any situation in which a man can be placed which does not afford opportunities for interesting and useful phrenological observation. From its very nature, it is in society and in our daily intercourse with the sick, and not in the closet, that we are to look for most of its evidences, and that we find ample scope for its applications; and in this way it becomes an object of interest, and almost of amusement, in the very hours which would otherwise be often thrown away. Let no one, then, who is possessed of a strong love of truth, combined with even average powers of intellect, fear to engage in the study; for although, in its applications to human improvement, Phrenology affords full scope for the exercise of the highest mental endowments ever vouchsafed to man, it also presents much that is at once intelligible, and in a high degree useful, to minds of an ordinary calibre. I know some persons of this description who, by patient perseverance, have not only thoroughly mastered its principles, but succeeded in applying them in the affairs of every-day life with so much tact and success, as to have added largely to their usefulness, comfort, and happiness.

In making these remarks regarding the utility of Phrenology, and the increasing interest now felt in its diffusion, I ought, perhaps, to warn you, that, as a system or body of doctrine, it is far from being regarded by its adherents as either perfect or complete. On the contrary, no one knows so well as

the true phrenologist how much still remains unaccomplished. Let those, however, who are opposed to it, on the ground of its incompleteness, fairly try its merits even as it stands, by comparing them with those of any other philosophy or physiology of the brain, and we shall fearlessly abide by the result. Utility is a prominent characteristic of truth. Whatever is true, becomes of some use, even when imperfectly developed; whereas error serves only to mislead, however ingeniously it may be propounded. Tried by this test, there is this remarkable difference between Phrenology and any other physiology of the brain or philosophy of mind that I ever heard of:—On the one side, we have the direct and explicit testimony of physicians, moralists, philosophers, clergymen, lawyers, teachers, parents, superintendents of asylums, prisons, and schools, merchants, students, and, in short, of numbers in all ranks and professions, certifying, in strong terms, and from their own experience, that they have found Phrenology of great utility in the practical business of life; whereas there is not, on the other side, so far as I am aware, a single instance of any one volunteering similar testimony with regard to any other view of the functions of the brain, or any other philosophy of mind, from the days of Aristotle downwards. For my own part, I am certainly within the mark when I say, that I have seen, heard, or received explicit testimony to the practical advantages of Phrenology from at least a hundred different persons, many of whose communications were by letter and from individuals wholly unknown to me; and I know that other phrenologists could state the same thing. How, then, are we to account for this remarkable fact? A high and revered authority tells us, that truth may be known by its fruits, and admonishes us, therefore, to try all things, and hold fast by that which is good. Is it wrong, then, to infer, with this evidence before us, that there must be at least a large infusion of truth in that which all who know it have found to be a source of happiness, improvement, and advantage to them? And am I wrong in urging you to try Phrenology for yourselves, and to abide by your experience of its results?\*

\* Among other unequivocal symptoms of the estimation in which Phrenology, as a practically important science, is held, I may refer to the bequest of about L.15,000 to the Phrenological Society of Edinburgh, by the late Dr Robertson of Paris, who died in 1840, and who had taken a warm interest in the subject for nearly thirty years. In a correspondence which occurred a few months before his death, Dr Robertson mentioned that he thought at first leaving money for the purpose of founding a Professorship of Phrenology in the University of London; but that, on consideration, he preferred leaving the disposal of his funds to the Phrenological Society. The legacy, however, has not yet been forthcom-

But time warns me to have done. Before parting, however, I would once more earnestly recommend to you, while listening to the instructions of Dr Weir, to observe nature for yourselves, and exercise your own judgment, on the subjects submitted to your attention. Your object ought to be truth alone; and that, unfortunately, is not to be found unmixed with error in any of the works of man. Man is, at best, but a fallible being, and no one who values science at its just rate will ever seek to rest its facts and doctrines solely on his own or any other human authority. So far as Phrenology is true, it has nothing to fear from either the wit or the malice of man; and so far as errors may have mingled with its truths, it can only gain by their exposure and rejection.

After what I have already told you, you will easily be able, without farther explanation, to understand the motives which have led to the establishment and endowment of the present lectureship. Addressing you, not as your teacher, but merely as the representative of Mr Henderson's Trustees, it was no part of my object to explain to you the nature, the evidences, or the uses of Phrenology; and consequently, if I have said enough to convince you that the subject is one of intrinsic importance, and eminently deserving of careful study on your part, my aim and that of the other Trustees will be entirely fulfilled. It will remain for Dr Weir, as your teacher, to do the rest, and I have no doubt that he will give you the most able and efficient assistance in conducting your inquiries. Looking back upon the aid and comfort which I myself have derived from Phrenology, both in my private and professional capacities, during the last twenty-five years, I cannot but feel an earnest desire that you, who are now only entering upon your career, should also share largely in its benefits, and contribute in your turn to its future improvement and diffusion. It is this feeling which has impelled me, at the cost of a greater effort than I have of late been accustomed to make, to prepare the present address; and, had strength permitted, nothing would have given me greater satisfaction than to witness in person the commencement of an undertaking which, by its permanent results, will, I trust, redound equally to your advantage and to the credit of Anderson's University.

AND<sup>W</sup>. COMBE.

*Edinburgh, January 7. 1846.*

ing, and a law-suit is now pending in Paris, at the instance of the Society, to compel Dr Verity—the sole executor under the will—to fulfil the intentions of the testator. This he at present declines to do, on the groundless plea of the non-existence of the Society; and he even repudiates the competency of the French courts to entertain the question at all.

## APPENDIX.

THE following letters are so interesting in themselves, and bear so directly on some of the points touched upon in the preceding Address, that no apology can be required for introducing them here. They were all written to Mr George Combe, in answer to a request made by him that each of his correspondents should favour him with his opinion on the subject of the Andersonian Lectureship. They were, consequently, all written without the slightest intercommunication or knowledge on the part of any one of the sentiments expressed, either in the Address itself or in any of the other letters. In this point of view, the definiteness and coincidence of opinion by which they are characterized, and the unconscious testimony which they bear to the accuracy of the author's representations, must strike every reflecting reader.

A greater number of such letters might easily have been procured; but those now presented will suffice. They are all from distinguished men, and each of them may be regarded as the representative of a distinct class of society. To the medical world, both at home and abroad, Mr Carmichael has been long known as standing at the head of the surgical profession in Dublin; and his brethren will not soon forget either the ability, zeal, and success, with which he has, for many years, laboured in the cause of science, or the munificent contribution (L.500) which he gave, two or three years ago, to promote the cause of medical reform. Professor Gregory, also, is too well known, from his position and writings, and from his former connection with Anderson's University, to require any notice here. Of Dr Browne of Dumfries, and of the value of his testimony, little need be said. He is well known as one of the ablest and most enlightened men who ever devoted their energies to the cause of the insane. Of Mr Hodgson, again, it will be sufficient to say, that as Principal of the Mechanics' Institution of Liverpool, he has for several years stood at the head of what is

now one of the largest, most important, and most successful educational establishments of this country, and that to his untiring energy, enlightened views, and great talent, it owes no small share of its efficiency and prosperity.

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LETTER I.—From RICHARD CARMICHAEL, Esq., M.R.I.A.,  
*President of the Royal College of Surgeons in Ireland ; President of the Medical Society of Ireland ; Honorary Member of the Royal Academy of Medicine of France, &c. &c. &c., and Surgeon of Richmond, Hardwick, and Whitworth Hospitals, Dublin.*

RUTLAND SQUARE, DUBLIN,  
 December 24. 1845.

MY DEAR SIR,—It afforded me the greatest satisfaction to learn that a Lectureship of Phrenology has been at length established in a University ; and it reflects the highest credit upon the managers of the Andersonian University, to be the first to throw off early prejudices, and to acknowledge the importance of Phrenology, which, I have no doubt, will soon be generally regarded *as the true physiology of the brain, and immeasurably beyond every system of metaphysics hitherto propounded, in accounting for the workings of this hitherto inexplicable organ.*

When Spurzheim first arrived in this country, I witnessed his dissection of the brain ; and I well recollect the gratification I felt, when I observed him tracing the nervous fibres from their origin to their termination, instead of cutting them transversely, as had been previously the habit. Just as well might we attempt to display the muscles of a limb, in order to explain their action, by cutting them across. But, notwithstanding this obvious improvement in the mode of dissecting the brain, Gall and Spurzheim were stigmatized for this, as well as for their other discoveries, in the *Edinburgh Review*, as impudent impostors and charlatans. But *now* their dissection of the brain is the only one pursued, I believe, in all the anatomical schools ; and their Phrenology will soon, I trust, be equally taught, as the true philosophy of mind, in all the universities of Europe.

Phrenology, under the able lectures of Spurzheim, continued to make progress with the public, notwithstanding the opposition of established moral philosophers and metaphysicians, at the head of whom was the celebrated Dugald Stewart, who actually refused to admit Spurzheim into his presence, although he brought him a letter of introduction.

A second virulent article against Phrenology appeared in the *Edinburgh Review*, in which that most unmerciful of all weapons, *ridicule*, was unsparingly and skilfully employed by its able editor. But Phrenology has withstood all this violence and persecution ; and, so far from being crushed, is every day advancing in public estimation ;—a strong proof of which is the fact, that the language of Phrenology is often employed, even by its opponents, when they attempt to convey opinions respecting the mental characteristics of others, which they find it difficult to render equally intelligible in ordinary language.

I shall not occupy your time, by advertng to the flood of light which Phrenology has thrown on the principles upon which education, jurisprudence, and prison discipline, ought to be conducted, viz., by the improvement of the intellectual and moral organs, so as to keep in check the influence of the animal propensities. It would be equally superfluous to insist on the advantages it affords in treating the insane. You will agree with me, that no individual who is not a skilful Phrenologist, can reach the same degree of efficiency, in superintending an asylum for such patients, which he could attain by its aid. Indeed, the assistance it lends in establishing a confidence in ourselves, and acquiring the confidence of our patients, is of the greatest utility in the treatment of those ailments which depend upon a morbid state of the brain, or some other portion of the nervous system, such as epilepsy, hysteria, hypochondriacism and neuralgia.

The example of the Andersonian University must in time be followed. Other similar institutions cannot leave the students in that unenviable state of ignorance, which would render vain all competition with those who are well grounded in this most important science; and aided by the light it sheds on so many fields of knowledge.—I remain, my dear Sir, yours very truly,

RICHARD CARMICHAEL.

GEORGE COMBE, Esq.

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LETTER II.—From WM. GREGORY, Esq., M.D., *Professor of Chemistry in the University of Edinburgh.*

EDINBURGH UNIVERSITY,  
5th January 1845.

MY DEAR SIR,—Having only returned from the country two days ago, I could not sooner acknowledge the receipt of your letter, which I found waiting me here.



I rejoice that you are to deliver the opening lecture of the first course of Lectures on Phrenology founded in any public educational institution in Scotland.

As having formerly held office in the Andersonian Institution; and as having, in 1839, delivered, within its walls, a brief popular course of Lectures on Phrenology, I feel naturally much interested on the present occasion.

The Managers have always been distinguished by liberality of sentiment; and in no one of their proceedings have they more honourably acted up to the liberal spirit of their Institution, or more conscientiously performed the duty which they owe to society, than in assisting in the foundation of a Lectureship on Phrenology.

It is possible that some may look on this step as imprudent, or even unjustifiable; but no one acquainted with the recent progress and present state of Phrenology will hold such an opinion. On the contrary, those who have attended to the subject, and watched its progress most closely, cannot but look forward with confidence to the time when there shall be a chair for teaching the true physiology of the brain in every flourishing seminary, as no longer remote. The example now set by Anderson's University will, ere long, be followed by other seminaries; and the managers and members of the Andersonian University will then derive just honour and praise from the result of their foresight, candour, and liberality.

The students attending these lectures will enjoy very great advantages; for they will no longer be shut out from the rich harvest of observations, and the valuable practical applications of these which abound in the works of phrenologists. When they listen to their learned instructor, Dr Weir, of whom it is unnecessary, and would be very presumptuous, for me to speak in terms of praise, they will find it impossible to hold the doctrine, so comforting to indolence and prejudice, that a phrenologist is necessarily a bad or inferior anatomist. The subject being presented to them as it ought to be, not in the form of a gross caricature, but in the words of the great founder and promoters of Phrenology, they will soon perceive, that the cerebral anatomy of Gall and Spurzheim surpasses that of their predecessors, as much as their cerebral physiology does; and that no discoverer ever lived who adhered to the golden rule of induction from carefully observed facts more strictly than Gall. These fortunate students, hearing Phrenology spoken of like any other branch of natural or physiological inquiry, as a field for observation and induction, and not sneered at, when alluded to at all, as an absurd system of divination, will proceed to the

study of nature in this branch of physiology, without having to unlearn a mass of prejudices which have, in many cases, proved an insurmountable obstacle to the progress of young anatomists, trained in some of the existing schools to a blind and unreasoning contempt of Phrenology.

Thus freed from the shackles of prejudice, and trained to employ their own faculties in observing Nature, as well as in reasoning on the phenomena observed, they will soon discover that Phrenology furnishes the key, so long sought for in vain, to many perplexing facts; that it explains, in a natural and simple manner, the phenomena of partial genius, and of partial insanity; that it throws equal light on innate tendencies, whether intellectual, moral, or sensual; that it yields the most precious hints for the treatment of the insane, as well as of the criminal; and, finally, that it forms the only rational foundation for an enlightened education.

What less, indeed, can be predicated of the physiology of the brain, when studied on rational principles? Indeed, were I to enter here on a list of the invaluable applications of Phrenology, I should appear to exaggerate, when, as you well know, I should speak very sober truth.

Let me observe, in conclusion, that I never cease to rejoice that it has been my fortune to live in a time and country which admitted of my becoming acquainted with Gall's Physiology of the Brain, as expounded and illustrated by Spurzheim and yourself; and that I feel a thorough conviction, that Dr Weir's pupils in the Andersonian University will, one day, echo the sentiment, and will ever feel grateful to the Founders of the Lectureship, for the inestimable benefits which have flowed from the Institution. I remain, yours very sincerely,

WILLIAM GREGORY.

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LETTER III.—*From W. A. F. BROWNE, Esq., M.D.,  
Physician, Crichton Institution for the Insane.*

CRICHTON INSTITUTION, DUMFRIES,  
3d January 1845.

MY DEAR MR COMBE,—I understand that you are to deliver a Lecture before the Members of the Andersonian Institution, Glasgow, introductory to the Course of Dr Weir, the newly appointed Professor of Phrenology.

All men, whether holding my sentiments or not, must regard this as a most important event in the progress of moral and physical science. But those who have faithfully investigated the subject of cerebral physiology, who have marked the progress of public opinion, who are aware that

a large body of educated men have adopted the principles of Phrenology; that an equally large body of men, it may be unconsciously, *think* phrenologically, judge of conduct and character through the medium of Phrenology, and employ its phraseology; and, further, that the treatment and training of the young, the diseased, and the criminal, have been, in various places and countries, and in various modes, moulded and modified in accordance with these principles, cannot but regard the appointment as an indication of the general feeling upon this disputed question; and the Directors, not merely as patrons of science, but as benefactors, in the true sense of the word, in adopting means to diffuse a knowledge of truths which affect all men, in all states and stages of civilization, in all stations of life, and in all conditions, bodily and mental. This much, as to the act which you are about to signalize; then as to the importance and value of phrenological views I cannot now express myself otherwise, or better, than I did when addressing you ten years ago upon a different occasion.

I have been acquainted with the principles of Phrenology for upwards of twenty years; that, from proofs based upon physiology and observation, I believe these to be a true exposition of the laws and phenomena of the human mind; that, during the whole of the period mentioned, I have acted upon these principles, applied them practically in the ordinary concerns of life, in determining and analyzing the characters of all individuals with whom I became acquainted or connected, and that I have derived the greatest benefit from the assistance thus obtained. But although the utility of the science be most apparent in the discrimination of the good from the bad, those of virtuous and intellectual capabilities from the brutal and the imbecile, it is not confined to this. In the exercise of my profession, I have been enabled, by the aid of Phrenology, to be of essential service in directing the education of the young, as a protection against nervous disease, and in removing or alleviating the various forms assumed by insanity in the mature. For many years I have devoted myself to the study of mental diseases, and to the care of the insane. During my studies at Salpêtrière, Charenton, &c., in Paris, I was able to derive great additional information from my previous knowledge of Phrenology; and since I have been entrusted with the care of public asylums, I am inclined to attribute whatever success may have attended my efforts to ameliorate the condition of those committed to my charge, to the same cause.

I may add, that I was *converted* from a confidence in the accuracy of the philosophy of the schools to a belief in Phre-

nology ; that I did not accept its doctrines on the authority of my teachers, but tested their truth by repeated experiment ; that I have since taught them to large bodies of my countrymen ; and feel fully convinced that, until they be recognised and acted upon generally, no just conclusion can be drawn as to human character, nor as to the administration of punishments for the improvement, or rewards for the encouragement of mankind.—I have the honour to be, with great respect, your obedient servant,

W. A. F. BROWNE, M.D.

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LETTER IV.—*From* W. B. HODGSON, Esq.

LIVERPOOL MECHANICS' INSTITUTION,  
MOUNT STREET, 2d January 1845.

MY DEAR SIR,—It is with no slight pleasure that I have heard of the introduction of Phrenology into the Andersonian University of Glasgow as a regular branch of instruction, and from what I have heard of Dr Weir, I am convinced that his appointment will be of eminent service to the science. You are not unaware of the views which I have held for many years as to the expediency of teaching Phrenology in all universities, not incidentally, but thoroughly, openly, and systematically, as a distinct and most important branch of philosophical inquiry,—distinct, and yet closely allied with many other sciences, and forming in itself the great bond of union between physiology and metaphysics, the science of the body, and the science of the mind. Of the utility of Phrenology in various pursuits, there are not now wanting many influential witnesses. Of its importance to the Educationist I may speak, if with humility, yet with confidence, based on actual experience. To the practical teacher Phrenology is of eminent service, not merely in enabling him to form rapid and correct judgments of individual characters, but from its clear and simple philosophy of mind, the light it throws on the *nature of the being to be instructed*, and consequently on the true aim and wisest methods of education. But a letter is not the place for a full statement of the bearings of Phrenology on education. Once more I congratulate you, who have so long and so zealously laboured in this cause, on the present recognition of the claims of Phrenology to be formally taught as something true, and useful because true.—I am, yours very faithfully,

W. B. HODGSON.  
Principal.

The last letter is from Dr Conolly, late Resident, and now Consulting, Physician to the Middlesex County Lunatic Asy-

lum at Hanwell, and formerly Professor of Medicine in the London University. Dr Conolly is well known, both by his writings and by the improvements which he effected in the management of the Hanwell Asylum, and especially by the entire abolition of physical restraint, and the successful substitution of increased kindness and watchfulness among an insane population of upwards of 800. His experience has been so great, and his Clinical Lectures, now in the course of publication in the *Lancet*, have made him so extensively and advantageously known, that his authority cannot fail to have much weight.

HANWELL, January 5. 1846.

MY DEAR SIR,—Recollecting almost the commencement of your labours in the cause of Phrenology, when I had the happiness of being a student at Edinburgh, I cannot refrain from offering you my congratulations on the establishment of a Professorship of the science in the Andersonian Institution at Glasgow ; and I only regret that I cannot have the advantage and gratification of hearing the lecture which you have undertaken to deliver on the occasion.

Many and pressing avocations leave me no time just at present to express to you, in a manner at all worthy of the subject, my conviction of the great usefulness of habitual regard to the principles of Phrenology, especially in my department of practice, and of the confusion and imperfection of the views which seem to me to be taken, both of sound and unsound mind, by those who reject the aid of observations confirmed now by vast experience, and most of which may be daily verified in asylums for the insane. I am also convinced, that attention to the form of the head, conjoined with that cautious consideration of all other physical circumstances which no prudent phrenologist disregards, will often enable the practitioner to form an accurate prognosis in cases of mental disorder, and to foretel the chances of recovery or amelioration, or hopeless and gradual deterioration. But I am aware that I am now taking a very limited view of the applications of the science ; which, however, I know you will excuse, in consideration of the somewhat exclusive occupation of my mind on these subjects.

I always remember with pleasure your illustrative remarks on the shape of the heads of some of the unfortunate inmates of a prison which I was some years ago permitted to visit with you ; and I wish much for an opportunity of conducting you through the wards of Hanwell, and, with examples before us, benefiting by your great experience.

With all good wishes, believe me to remain, my dear Sir  
always sincerely yours,

J. CONOLLY.

GEORGE COMBE, Esq.

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# FIRST ANNUAL REPORT

OF THE

## WILLIAMS SECULAR SCHOOL.

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Man is approaching a more complete fulfilment of that great and sacred mission which he has to perform in this world. His reason being created after the image of God, he has to use it to discover the laws by which the Almighty governs his Creation ; and by making these laws his standard of action, to conquer Nature to his use—himself a Divine instrument. Science discovers these laws of power, motion, and transformation ; industry applies them to the raw matter, which the earth yields us in abundance, but which becomes valuable only by knowledge ; art teaches us the immutable laws of beauty and symmetry, and gives to our productions forms in accordance with them.

Speech of Prince Albert at the Mansion House.—March 21, 1850.

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MDCCL.

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# FIRST ANNUAL REPORT

OF

## THE WILLIAMS SECULAR SCHOOL.

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THIS School was instituted for the purpose of affording to the Children of the Working-classes of Edinburgh a useful Secular Education. It was framed on the model of the Birkbeck School of the London Mechanics' Institution, which has been eminently successful, and which has led to the establishment of several similar seminaries in the metropolis. It owes its origin to Mr William Ellis, of Champion Hill, Camberwell, a well-known, zealous, and enlightened friend of the Education of the People. It aims at training children to virtue and usefulness, by instructing them in the constitution of the things and beings which exist, their relations, and the consequences of their various modes of action ; and by accustoming the animal propensities, and moral and religious sentiments, to act in harmony with the intellectual faculties, in obeying throughout life the law of God inscribed in the records of Creation.

The object of the School thus includes the training of all the faculties—animal, moral, religious, and intellectual ; but in order to avoid the difficulties arising from differences of opinion among the various sects on points of Religious Doctrine, the department of dogmatic Spiritual Instruction is not undertaken, the teaching being confined to matters that are purely secular, or relating to this world and its duties only. This course by no means excludes the training of the religious sentiments : for reverence to the Supreme Being, and obedience to His will, may be efficiently taught, by presenting to the minds of children the evidences of His existence, power, and beneficence—the laws which He has instituted, as they are embodied in His Works of Creation,—and the temporal consequences of obeying or infringing them. As these points admit of inductive philosophical demonstration, comparatively few differences of opinion exist in regard to them ;



while they form a basis upon which further religious knowledge, imparted by its more appropriate teachers, may advantageously be founded. The Promoters of the School desire to leave to the parents themselves, or to such special religious preceptors as they may select, the teaching of doctrines relating to the Supernatural World; and it is here that they would draw definitely the line between Secular and Spiritual Instruction.

The School was opened, for boys only, on 4th December 1848, in temporary premises, No. 6 Infirmary Street. The average attendance during the first month was 32; and the numbers continued steadily increasing until the last month of the Session (July 1849), when they reached 60. In September 1849 the School re-opened, for both boys and girls, in the building, No. 1 Surgeon Square; and a female assistant-teacher, Miss Carmichael, was engaged. By the middle of October the number of pupils amounted to 160, about one-third of whom were girls. The average numbers have been maintained at about the same points, to the close of the year embraced in this Report.

As the constitution and objects of the School are still, in many quarters, imperfectly understood, it appears advisable, in this first Annual Report, to enter into a brief explanation of them. The subjects taught include English Reading, Grammar, and Composition; Writing, Arithmetic, Geography, History, Book-Keeping, Drawing, and Vocal Music; Plain and Ornamental Needlework for the girls; also the elements of Mathematics, Natural History, Chemistry, Natural Philosophy, Social Economy, Physiology, and Phrenology.

In the organization of the School, the teacher has endeavoured, as far as possible, to combine the advantages of the monitorial and simultaneous systems, without carrying either of them so far as is customary with their exclusive partizans.

The monitorial arrangements are similar to those recommended by the British and Foreign School Society—the number of children in each class under a monitor averaging 9 or 10, and never exceeding 12. In this way the number under each monitor is kept so low as to be within his power of control, and the pupils can be so classified, in relation to their attainments, that what is intelligible to one is intelligible to all. By such classification, as is thus practicable, the chief difficulty of simultaneously teaching large numbers is obviated—viz., that arising from some pupils being in advance of the rest, and answering every question, while the others are passive, or only mechanically repeating the answers of the more intelligent; or, on the other hand, from the more advanced losing time, and acquiring habits of inattention and idleness, while what they understand clearly is being made intelligible to the rest.

Reading is taught partly in the monitorial classes, and partly in large classes simultaneously. In the monitorial classes the books

used are very simple, and generally of a narrative and descriptive kind, such as the children can easily comprehend, and cannot fail to be interested in. Each child in turn reads aloud, the whole class following mentally, and correcting, if they can, when an error is made. When the class cannot correct an error, the monitor does so; or if a difficulty occurs beyond the powers of the monitor, he appeals to the teacher. After about twenty minutes reading, the monitor questions his class on the subject of the lesson, and on the spelling and signification of the words that have occurred in it. During this exercise, the teacher is moving from class to class, supervising the labour of the monitors, explaining any difficulties that may occur in the lessons, and giving any other assistance that he may perceive to be needed.

In the collective lessons for simultaneous instruction of large numbers, the reading is made subservient to the systematic courses of instruction on the Moral and Physical Sciences, Natural History, Geography, &c. The teacher first reads aloud a sentence, and then all the class read it aloud together—keeping time by a slight exaggeration of the pauses. In these lessons elocution and English pronunciation are carefully attended to, and every effort is made to enable the children to grasp fully the subject of the lesson, by supplying them with additional facts and illustrations of a familiar, and, if possible, local character; and by leading them to supply illustrations of their own, and practical applications of the knowledge they are acquiring. Spelling and etymology are connected incidentally with these lessons. Wherever the subject permits, and the means of the School will afford, objects and diagrams are exhibited; and the teacher has found that the rapidity, accuracy, and stability of the progress of the pupils in any branch of knowledge, may be almost measured by the number of such illustrations that has been presented to them.

With the exception of the arithmetical tables, no lessons are set to the children to learn by rote. Wherever inferences or theories are involved, they are submitted to severe examination—the teacher suggesting difficulties and apparent objections, and requiring the pupils to do the same. In general, his object is to lead rather than carry them through a subject, by supplying, or, if possible, drawing from themselves, such suggestions and facts as may direct their minds to investigate and find their own conclusions, rather than to remain mere passive and submissive recipients of the statements of the teacher. By these means the intellectual faculties are vigorously exercised and developed, and the subjects taught are firmly fixed in the mind. It is hoped that the intellectual training thus commenced in the School will not terminate there, but that the children will acquire habits of investigation, and an independence and energy of intellect, which will induce them to continue through life the pursuit of know

ledge as their most valued recreation. Object-lessons are given daily to the younger children—generally by Miss Carmichael, sometimes by Mr Williams, and occasionally by one or another of the ablest monitors. These lessons are conducted so as to afford some general and rudimentary ideas on various branches of knowledge, and on the meaning and application of the ordinary words and scientific terms which the sensible properties of the objects illustrate, in order to prepare the children for those systematic courses of instruction in the sciences, which constitute the chief business of the advanced classes.

By presenting to the youngest children a piece of metal, of rock, of glass, of wood, &c., and examining experimentally its most obvious properties,—such as colour, texture, hardness, cohesion, odour, specific gravity, fusibility, &c., &c., and naming them by their proper scientific designations—which thus taught are more easily understood and remembered than less definite and accurate terms,—the pupils are prepared for the advanced classes, where the higher phenomena of nature, and the mechanical and chemical laws which regulate them, are studied.

In Geography all that is visible on the map,—the distribution of land and water, and of mountains, valleys, and plains, the courses of rivers, and the relative situations of the various countries and their chief cities; also the climate, plants, animals, and the most prominent customs and physical peculiarities of the people of different nations,—may be presented to the minds of children of from five or six to ten years of age, and rendered intensely interesting to them; and whatever interests a child is understood and remembered. When they have passed through this preliminary training, they are ready for the advanced classes, in which they are instructed in the relations of our planet to the heavenly bodies, and the forces which determine its movements among them; the structure of the earth's crust, and the changes it has passed through, and is undergoing; the constitution of the atmosphere and of the waters of the earth, their mutual relations and their influences on the solid foundations upon which they rest; the phenomena and laws of climate and meteorology; and the moral and intellectual characteristics, the social and political institutions, and general history of the inhabitants of different countries.

The object-lessons are also made introductory to Physiological and Moral Science. A bone, a skull, the whole skeleton, an anatomical diagram or preparation, is sometimes made the subject of an object-lesson to the younger children; and thus they become acquainted with the general structure, and some of the functions, of their own bodies, preparatory to entering upon a regular course of Physiology.

Rudimentary ideas of their own mental faculties are afforded, by leading them to enquire how they know that an object is brown, or hard, or odorous, &c.; and thus the organs and functions of the senses

and perceptive faculties are made, to a certain extent, familiar to them, and the subject of mental philosophy and the relations of their faculties to the external world, is opened, to be afterwards more fully unfolded in the advanced classes for Phrenology.

The comparison of a natural with an artificial object—a piece of flint, for example, with a piece of glass, or a tree with a table—serves as the basis of elementary instruction on the distinctions between raw materials and manufactured articles, on wealth and its production by labour, on the capital required for its production, on wages, profits, division of labour, interchange, commerce, &c.

Having, in this manner, conveyed to the minds of the children some simple, precise, and accurate notions of the forms and qualities of physical objects, the next aim of the Promoters and Teachers of the School is, to superadd a systematic knowledge of the structure and functions of the human body, and of the faculties of the mind. Physiology, illustrated by a human skeleton, by casts of the muscular system, and by diagrams representing the blood-vessels, the digestive and respiratory organs, and also the brain, spinal marrow and nerves, are used as the basis of explanations of the structure, modes of action, laws of health, and uses and abuses of the bodily and mental organs. Abstract terms and disquisitions are as much as possible avoided, and objects, facts, relations, and mental states, falling within the observation and consciousness of children, and elucidated by numerous and familiar illustrations, are chiefly relied on.

The success of the instruction in these departments exceeds the most sanguine expectations of the Promoters of the School, and shews that God who ordained the human faculties, adapted the remainder of Creation to them, with a wisdom and goodness which promise results of unspeakable importance, whenever adequate instruction in natural truth shall be generally and successfully conveyed to the opening faculties of the young.

Thus grounded in accurate ideas concerning the simpler elements and laws of the physical and moral worlds, the pupils are prepared for lessons on Social Economy, in which the natural laws which govern the production of wealth, the manner in which it has been and may be distributed, and the foundations of differences of rank, of civil laws and government, and of the general duties and arrangements of social life, are taught.

Hitherto, the progress of the advanced classes has been much slower than, it is hoped, it will be hereafter, owing to the want of due preparation in the elder children who have come from other schools, where a different system was followed, under which they had acquired the habit of reading and repeating mechanically the mere words of the lessons, without making any effort to examine and comprehend the subjects of them. Much time and training have been requisite to overcome this defect, and lead them habitually to think for themselves,

and investigate everything that is brought before them. This difficulty increases with the age at which the children are admitted to the school. The younger children enter at once into the spirit of the system, and their progress in every respect is most satisfactory.

Among other means which have been adopted for awakening the intelligence of the children, one may be mentioned, which was tried by the teacher as an experiment, and has proved successful. The children were directed to look about them wherever they went, to examine carefully the things and books they met with, and to try to find something they could not understand, and which might puzzle the teacher; to write a question concerning it, with their name appended to it, and hand it to the teacher, who, if he could, would answer it, and explain the subject to the whole class. This was tried shortly after the school opened; but it was not until the month of May following, that any of the children were induced to commence. When once begun, however, the questions became subjects of much excitement, and poured in very abundantly. Lessons have since been regularly given upon them, and they are found to interest the children more than anything else, and afford a powerful means of exercising their observing and reflective faculties, besides suggesting to the teacher a multitude of simple useful subjects, and common applications of great principles, about which the children's minds are already active, and their curiosity roused, and informing him of much that it is desirable he should know concerning their ideas and wishes, and the subjects which most occupy their minds, and those which fail to do so.

The physical training of the children is not neglected, though the want of play-ground seriously limits the efficiency of the school in this respect. Between the lessons the children are drilled in such calisthenic exercises as the circumstances will permit; and singing is also used as a means of maintaining the general vivacity and cheerfulness.

The principal difficulty the teacher has experienced has been in maintaining order and discipline, without resorting to corporal punishment, or other severe measures. It is easy to maintain silence in a school by the simple expedient of flogging any child who makes a noise; but to lead the children to control their own boisterous and desultory playful tendencies by the force of a conscientious feeling of duty, and an ever-active sense of propriety, requires some time, and much patient, careful training—especially when some of the children, from having been accustomed to harsh discipline, both at home and at the schools they have formerly attended, have been trained to base their self-restraint on the fear of corporal punishment alone, and have thus become, to a great extent, insensible to other motives. On this account it has been found necessary to have occasional resort to corporal punishment in extreme cases of disobedience; but it is hoped that there will shortly be established a general moral tone among the

children, sufficiently strong to obviate entirely the necessity of this most objectionable means of discipline.

Moral Training has always been maintained as the paramount object of the school. As already mentioned, the children are taught the laws of their own constitution, physical, intellectual, and moral, as deduced from the structure and relations of their bodily and mental organs, and from observed mental phenomena. It is shewn to them that these laws are not mere human inventions, but the positive institutions of the Creator; that the whole framework of external nature is built up in accordance with them; that not one can be violated by us without deranging the harmony of our own functions and relations to the world around us; and thereby necessarily producing immediate or remote pain and misery to ourselves and those we influence. This principle is studiously kept in view in all the lessons on the sciences. The children are shewn the evidences of design and unity existing in the structure of the universe; that not a particle of matter, however insignificant, can change its place but in accordance with the laws impressed upon it by its Creator; and thus they learn that every truth which science teaches is a revelation of God's will, which should be known by man, and serve to guide him in performing his part in the general scheme of Creation.

In the lessons on the Physical Sciences, they are taught the laws by which the Creative Intelligence is governing and sustaining the physical universe; in the Physiological lessons, they learn the conditions upon which He permits organized beings to enjoy life and health; and in the Phrenological lessons, although these cannot teach them what is the essential nature of thought and sentiment, they find an exposition of the organic conditions upon which the manifestations of the intellectual and affective faculties depend,—they learn that the moral as well as the physical world has been created with a fixed and definite constitution,—the laws of which we may study, and thereby learn much of the will of the Creator concerning our moral conduct. These laws, as far as the progress of science has as yet developed them, are taught, by examining the elementary faculties, the action of which produces all our *impulses, emotions, and ideas*,—how these powers may be abused and misdirected, and thus be in discord with each other and the world without; which discord is vice, and leads to misery—and how they may be rightly used and well directed, so as to be in harmony with each other and all things, which harmony is virtue, and tends to happiness.

The introduction of Phrenology, because of the prejudices still cherished against it, was considered by many as an experiment of questionable prudence, but experience has proved its wisdom and great utility. Without instructing children in their own bodily and mental constitutions, it is impossible to convey to them clear, useful, and practical notions of their own relations to the other objects and beings of

Creation, and to the Creator ; and to invest instruction in the works of God with that religious character which truly belongs to it. By enabling the children to understand their own mental faculties and bodily functions, and the objects of the Creator in bestowing these upon them, their religious feelings are brought, in harmony with the intellect, to bear upon all things, and to exert their elevating, purifying, guiding, and restraining influence upon daily thought and action.

The children take a deep interest in this instruction; so much so, that if their attention be flagging over an object, they are roused and excited to fresh life when its designs and uses, as instituted by the Creator, are unfolded. It is no longer a subject of pure intellectual contemplation, but becomes a key-note which rouses their sentiments of Wonder and Veneration ; and these, again, communicate new intensity and depth to their intellectual perceptions.

The moral training is not confined to the mere teaching of the principles of morality, but every effort is made to exercise and develop the moral powers of the children, by maintaining them in active operation in all the proceedings of the school. We desire so to regulate the conduct of the children that what they are taught in the lessons may at once and habitually be carried out in their intercourse with each other. Moral delinquencies are tried by a jury of the children, the teacher acting as judge. These trials are so conducted as to form practical moral lessons on circumstances which the children cannot fail to understand and appreciate, and aid in creating a sound public opinion throughout the school,—the operation of which is not confined to the occasion on which a verdict is pronounced. The offender, who thus receives condemnation from his own schoolfellows, feels both its force and justice far more deeply than if the teacher alone pronounced it ; and the jury themselves, in asserting the supremacy of justice, are exercising their own moral powers, and thus fore-arming themselves against the liability to commit similar transgressions.

The teachers have always endeavoured to give a moral tone to the whole proceedings of the school, by maintaining a scrupulous impartiality in their treatment of the children, by explaining to them the moral grounds upon which the school-discipline is founded, and freely permitting *their own* conduct to be questioned—making the government of the school, in fact, as constitutional as possible, and altogether based upon reason and the moral sentiments ; always avoiding the position of irresponsible despotism, which is assumed by some schoolmasters, and viewed by many parents as essential to school-discipline.

It is hoped that the children, thus made acquainted with the exquisite machinery of the physical creation, and of their own bodily and mental organism, and accustomed to regard the whole as the gift of the Omnipotent Father of all, will feel that the fulfilment of the conditions upon which He has made health, virtue, and prosperity to

depend, is a holy and imperative duty ; and that wilfully to derange their own organisms by intemperance, and immorality, or to violate the laws of physical creation by recklessness and folly, would be acts of sacrilegious and unnatural ingratitude—a defilement of the living “temple of God”—as well as a certain cause of personal suffering to themselves.

The boys and girls are educated together in the same classes. When the girls first entered the school, there was some degree of excitement among the boys, and annoyance to the girls from their notice and attentions ; but proper admonitions, and thoroughly engaging the attention of the individuals of both sexes in the business of the school, soon put an end to these irregularities, and the conduct of both speedily became in every respect satisfactory. The boys are trained in gentleness, deference, and self-restraint, by the presence of the girls ; and the girls learn modesty, self-respect, and self-reliance, in their association with the boys. The girls are taught needlework and knitting by Miss Carmichael, the assistant teacher, at a separate hour each day ; and it is not an uncommon occurrence for some of the boys to beg to be permitted to stay to their lessons, and to read a story-book to them while they are engaged in their peculiar work. As Miss Carmichael is constantly present, no interruption of the proper business of the hour takes place from this indulgence. Some of the boys also, from natural inclination, have asked Miss Carmichael to give them lessons in sewing and knitting, with which she has uniformly complied. These may be useful to them in future circumstances.

The school having been little more than one year in existence, the extent of its usefulness can of course be but faintly indicated by the visible changes at present wrought upon the children. Enough, however, has been effected to encourage the warmest hopes of its friends.

After the foregoing explanation of the principles on which it is founded, a few remarks on its practical effects may be added.

The intellect of the children has been awakened to so great an extent as to have effected, in many cases, a visible change in their manner and appearance—an earnest curiosity and a love of knowledge have arisen, and become a general characteristic of their minds. They evidently begin to feel that they are living and moving in a world which has been created by Divine power, and adapted by Divine wisdom to the nature of man. They perceive the direct influence on their well-being, of the knowledge imparted to them ; while they have also learned that they live in a scene of wonders, where fresh beauties and harmonies are ever opening to those who look around with attention and intelligence. They observe, think, and read, spontaneously ; in many cases with such earnestness and activity, as to require considerable vigilance, on the part of the teachers, to prevent over-exercise of the brain.

Their love of the school is remarkable. Instead of making their escape with the usual eagerness when the school-hours are over, a



considerable number is always found hanging about so pertinaciously, that the teachers have difficulty in sending them out, and enforcing observance of the play-hour. They endeavour to obtain books; and instead of going to play, will sometimes hide themselves in the back-rooms of the school to read them, or collect together in groups to discuss the incidents of their little world, or some wonderment which a lesson has suggested, but not yet solved.

The progress made in the various branches of study is highly satisfactory; and there is reason to believe that it is of a substantial character—that the children have made the subjects their own, and when they speak of them are expressing their own ideas, and not merely repeating by rote a lesson they have been taught. Appended are some reports of examinations which have taken place; but it should be understood that these examinations were too short to bring out more than a very small fraction of their intelligence.

The moral improvement of the children has been equally satisfactory. The animosities, quarrels, and fighting, so troublesome in some schools, have scarcely any existence among them. A scuffle will sometimes, though very rarely, occur in the midst of some boisterous game; but such a thing as a stand-up fight is an outrage against which the moral sense of the whole school would revolt; it would not be permitted by the other boys, even if two combatants were found ready to commence. They understand and feel, that such brutality is inconsistent with the moral attributes of a human being. This was not the case, however, at the commencement of the school; for, within the first three months, several trials for malicious fighting and wanton cruelty took place. Incidents are daily occurring which afford the most pleasing proofs of the friendship and kindness of the children to each other, and their affection to the teachers. At first, several cases of petty theft occurred: three boys were tried, convicted, and expelled for theft, under rather aggravated circumstances, within three weeks after the school was opened. These cases, and some others which occurred during the following month, were, by the trials and frequent allusions to them, made the basis of many moral lessons; and the children were directed at once to apply these practically, by scrupulously abstaining from the appropriation of anything not their own, and by bringing to the teacher anything, however trifling, they might pick up, or find lying about, in order that a strict search might be instituted to discover the rightful owner and restore it to him. This has since become a general practice; halfpence and farthings, pieces of pencil, marbles, buttons, toys, and trinkets of all kinds, are brought to the teacher daily, whether found in the school, or in the street on the way to or from the school.

It is worthy of remark, that in September last, when nearly a hundred new pupils were enrolled in about four weeks, it continually occurred that pencils, pens, halfpence, and other little things, the

property of the children or of the school, were missing, and upon inquiry it was evident that they must have been stolen. This annoyance lasted about six weeks or two months, just as was the case when the school first opened ; but it has now ceased.

In the first instance, as before stated, the offenders, upon conviction, were dismissed from the school ; in two more recent cases, the same sentence was pronounced by the teacher, but he consented to remit it if a majority of at least three-fourths of the pupils expressed a wish that it should be suspended, and would become bail for the offender by carefully watching him, and giving him all the moral aid in their power to resist the temptation to this ruinous vice. They assented to this with unanimous acclamation, and the effect, both upon the culprit and the general public of the school, has been excellent.

The school has at all times been open to visitors, many of whom have honoured the teachers with their presence, and thus means have been afforded of testing their professions by their performances. In the course of the year 1849, two examinations of the pupils took place in presence of the parents of the children and their friends, notices of which appeared in the newspapers. As a practical illustration of the manner in which the business of the school is conducted, extracts from these Reports are subjoined in the Appendix.

The Promoters of the School have the satisfaction of adding, that the merits of the system, and of Mr Williams as the head teacher, have been fully appreciated by the parents and the children. The latter expressed their approbation by publicly presenting to Mr Williams a handsome writing-desk, with a suitable inscription, as a testimony of their esteem.

The Promoters consider themselves particularly fortunate in having obtained the services of Miss Carmichael as an assistant-teacher. She was trained at the Queen's College and in the Normal Seminary of Glasgow, and since she joined the Williams Secular School, she has entered into the spirit of, and carried into practice, the principles on which it is founded, in a manner which has secured the esteem and affection of the children, the confidence of the parents, and the approbation of the Promoters.

An account of the Receipts and Expenditure of the School is annexed ; and while the Promoters return their sincere thanks to the Trustees of the late W. R. Henderson, Esq., and to the other friends who have so generously supported the school, they feel it a duty to call attention to the large extent to which the money has come from England and Ireland, and express the hope, that hereafter Scotland may give an increasing aid to the education of the children of her own labouring people.

GEO. COMBE, JAMES SIMPSON, *Promoters.*

EDINBURGH, 6th April 1850.

## APPENDIX, No. I.

## EXAMINATION OF WILLIAMS' "SECULAR SCHOOL."

*(From the Scotsman of April 7, 1849.)*

Mr WILLIAMS then caused the junior class to stand up, in order to shew the manner in which a lesson on objects was conducted. The boys were examined separately, and in succession, so as to make it apparent that each understood the particular object under consideration. The instruction embraced the physical properties of matter, and children of six and seven years of age shewed an intelligent comprehension of the meaning of such words as "elasticity," "fusibility," "transparency," "opacity," &c.—an object possessing the quality being in each instance handled and examined by the scholars. The answers elicited were always ready and accurate.

A second and more advanced class were minutely examined upon the elementary principles of mechanics. The boys explained, with much clearness, in answer to questions that were put to them, the different properties of the lever, the wedge, and the screw.

The third and highest class then underwent a most searching examination by Mr Combe in Physiology, particularly with regard to the bones, muscles, skin, heart, lungs, bloodvessels, absorbent vessels, the stomach, liver, intestines, and other digestive organs, and they shewed a knowledge of the local situations, general structure, and functions of all these parts. This was by far the most interesting part of the examination, and the pupils acquitted themselves to the admiration of all present, as was evinced by the frequent manifestations of applause. They were then examined on *the uses* of this knowledge. An infant and an adult skeleton, for example, were placed before them, and they were asked how the one grew to the size of the other. They described the absorption of the waste matter of the body by the absorbent vessels, and its discharge by the skin, bowels, bladder, and lungs; then the renovation of the textures by the deposition of new matter by the blood-vessels, bone being given to bone, muscle to muscle, nerve to nerve, &c., where wanted, in order to renew waste and complete growth. They next described how wholesome food, in proper quantity, is necessary to supply the blood with the elements of these structures, and pointed out the consequences to growth and to health of too little, too much, and of ill-chosen food; they described the necessity of fresh air to invigorate the blood, of cleanliness to prevent its being contaminated by dirt absorbed through the skin, and of exercise to preserve the circulation of all the vessels in a state of activity.

They were next asked who made all these vessels, bones, and other parts, and appointed their uses? They answered, "God."

"Did God intend them for your happiness?"—"Yes." "Can you escape from the painful consequences of neglecting cleanliness, fresh air, exercise, and temperance?"—"No." "Why not?"—"Because God has made the organs, and made them act as they do; and they act well or ill according to our conduct." "Are you thus living under God's laws *here and now*?"—"Yes." "Do you need to die before you come into God's presence and under His law?"—"No; we are under His law here, and He is now present executing His law."

The children read, sang, and shewed their drawing-books; and after some interesting remarks by Mr Williams on his mode of employing the Monitorial System, the Examination was concluded.

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## APPENDIX, No. II.

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### EXAMINATION OF MR WILLIAMS' SECULAR SCHOOL.

*(From the Scotsman.)*

On Friday, 27th July 1849, the pupils attending this school were examined; and as the system followed is one which, in its main features, has frequently been advocated in our columns, we are happy to be able to report very favourably of their progress. The younger children, forty-two in number, were examined between eleven and one o'clock, when their mothers, and many other individuals interested in their improvement, attended. In the evening, from eight to eleven o'clock, the senior boys, nineteen in number, gave examples of the instruction they had received, and the school theatre (formerly Mr Lizars's Anatomical Lecture-room) was crowded by an audience exceeding 250 persons. Mr George Combe and Mr James Simpson, the Promoters of the School, superintended the proceedings.

In the morning examination, the junior pupils were divided into four classes. The first or youngest class exhibited their attainments in reading, spelling, and the use of numeral characters.

The second class read a story of a lapdog which was pampered into inertness and ill-temper by over-feeding, and cured by exercise and plain food. They were then questioned on the meaning of the words, and the application of the facts to themselves.

The third class read a chapter descriptive of the various kinds of trees; and, in answer to questions put to them, described the structure and physiology of the several parts of a tree, the adaptation of the root to the soil, the rising of the sap, &c. They described, also, the limbs and covering of animals as different from the structure of plants, and stated how both were adapted to their respective circumstances. The power, wisdom, and goodness of God in these structures and adaptations were next adverted to.

The same class went through an object-lesson on wool, and described its various qualities, its uses to the sheep and to man, and the processes of spinning and weaving. Their statement that wool grows on the sheep and clothes it, but that man is born without covering and must make clothes for himself, led to an exposition of the necessity of skill and industry to man.

The whole children next sang several songs.

The fourth class read a chapter on Physiology, and were examined in regard to the laws of digestion, and the advantages of temperance, cleanliness, exercise, pure air, and other conditions of health. All the bodily organs and functions were referred to God as their author; and conduct in conformity with their laws was stated to be obedience to the Divine will.

This concluded the morning examination.

In the evening, the senior division read the chapter "on Wages," from Mr Ellis's "Outlines of Social Economy;" and were then questioned on what constitutes wealth—its sources—the necessity of wealth to human enjoyment,—on capital and its sources, and the necessity of capital to the employment of labour,—on wages—the relations of capitalists and labourers to each other—the causes of high and low wages—and how high wages can be obtained. In order to obtain high wages, the working-classes, it was stated, must acquire skill, and practise industry and economy, and by these means gain capital for themselves; for by no human means can an ignorant, unskilful, spendthrift, reckless, labourer be rendered independent.

The pupils were next exercised in Mental Arithmetic, and we believe that few of the audience could keep pace with their powers of calculation.

The subject of Natural Philosophy came next in order. In the examination in April last they had shewn their acquaintance with the mechanical powers, and now they exhibited their enlarged knowledge of the elements of physics. Mr Williams made a drop of water form itself on the end of a glass rod, and fall to the ground. The boys were then questioned on the law of cohesion, which made it round; on the law of gravitation, which made it fall; on the nature of fluidity, which made it break when it touched the ground; and from these premises they ascended to the laws of the Planetary System, explained how the planets were round, how the planet Neptune was discovered, and how the phenomena of the double stars are accounted for. They deduced from these facts conclusions concerning the power, wisdom, and omnipresence of God. The laws of heat and evaporation were next expounded by the boys; and Mr Williams adverted to the recently-discovered spheroidal condition of fluids in contact with hot surfaces, as explaining the supposed incombustibility of the "Fire King," &c.

The boys next shewed their drawings and copy-books; and while the company examined these, they sang several songs.

The subject of Anatomy and Physiology was then resumed. As they had been examined at some length on this subject in April, they merely recapitulated the principal organs, such as the bones, muscles, lungs, heart, stomach, &c., and their functions. The bearing of this knowledge upon habits of cleanliness, temperance, and the other conditions

of health, was practically illustrated, and they then proceeded to the structure and functions of the brain and nervous system, or Phrenology. They mentioned the anatomy and functions of the spinal chord, the separate origins and uses of the nerves of motion and feeling, and the connection of these structures with the brain. They next answered on the functions of the brain, and pointed out the situations of the organs of the animal propensities, and the moral and intellectual faculties. An unmarked skull was then presented to them; and when Mr Combe touched one part of it after another at random, they named the cerebral organ which lay under that part, and never once failed to do so correctly. They also explained, in answer to miscellaneous questions, the uses and abuses of the faculties. To shew the nature of this examination (in which Mr Combe and Mr Simpson took a part, as they had occasionally done in the other subjects), we select a few examples:—

“What organ lies here?” (pointing to a place on the skull.)—  
 “Combateness.” What is the use of that faculty?”—“To give us courage to meet danger and difficulty in the discharge of our duty.”  
 “What are its abuses?”—“Fighting, opposing, contention.” “If other boys assail you, should you fight?”—“No; we should tell you.”  
 “But suppose I am absent, what should you do?”—“Call to the police for protection.” “Yes; or to any gentleman who may be there, if you cannot see a policeman.” “Why are the police necessary?”—  
 “Because there are people who steal and fight and destroy things.”  
 “What is the advantage of applying to the police rather than fighting?”—“Because we should all make a bad use of our combativeness alike, and might be beaten, and no good would come to anybody from it.” “What good comes from the police?”—“The peaceable are protected and the bad punished.” (This referred to the instruction which Mr Williams had given to the boys to abstain from fighting with the pupils of a neighbouring school, who had assailed them; because, when both parties were apprehended and carried to the police-office, the magistrate had told them that as both had fought he could only punish or dismiss both,—the latter of which he did with a reprimand.)

“What organ lies here?”—“Veneration.” “What are its uses?”  
 —“To produce the emotion of respect, reverence, and religious feeling.” “What are its abuses?”—“Idolatry, superstition, and respect for things and people that do not deserve it.” “What other faculties enter into religious feeling?”—“Hope and Wonder.” “Suppose any one were to tell you that religion was nonsense, and the invention of priests to keep the people in order, what would you say to him?”  
 —“That there are organs for religion in the brain, that God made the organs, and that therefore God made man a religious being.”  
 “When the Greeks and Romans worshipped idols, were they religious?”—“Yes; but they were superstitious—it was a wrong religion.”  
 “How can we discover true religion?”—“By applying our intellectual and moral faculties to the study of God’s will.”

“What organ is this?”—“Ideality.” “What is the use of it?”  
 —“It makes us love the beautiful and refined.” “Do you know any objects that please ideality?”—“Sir Walter Scott’s Monument—Mr Stewart’s Monument—the pillars on the Calton Hill—the front of the

Commerical Bank—the Princes' Street Gardens—the view from Arthur's Seat." (Each of these answers proceeded from a different boy, and was his own suggestion.) "Are there any other faculties for enjoyment like ideality?"—"Colouring and Wit, Time and Tune." "Do these show that God meant man to be merry at times and happy?"—"Yes." "What do some men drink whisky for?"—"To make themselves happy." "Do you know any other way of becoming happy?"—"Yes; to eat temperately of good food, keep the skin clean, breathe pure air, take exercise, follow some useful trade, and acquire knowledge." "Which of these two ways of becoming happy—the short-hand one of drinking whisky, or the one you have described, is the best?"—"The other way is best." "What does whisky do to the stomach?"—"It inflames its coats." "What does it do to the brain?"—"Irritates and stupifies it." "What does the other method of being happy do?"—"It improves the stomach and brain." "How are people next day after drinking whisky?"—"Stupid, ill, and unfit for work." "How, after the other way?"—"Strong and well, fit for everything they need to do."

These are mere specimens of the course of the examination, which embraced several other faculties, with their uses and abuses. The answers of the boys elicited frequent bursts of laughter and applause from the audience.

## APPENDIX, No. III.

### ABSTRACT OF ACCOUNTS OF THE WILLIAMS SECULAR SCHOOL.

(From 21st November 1848 to 31st December 1849.)

#### DONATIONS AND SUBSCRIPTIONS.

|                                                             |      |    |    |
|-------------------------------------------------------------|------|----|----|
| William Ellis, Esq., Champion Hill, Camberwell,             | £75  | 0  | 0  |
| The Trustees of W. R. Henderson, Esq.,                      | 54   | 3  | 4  |
| William Hackblock, Esq., Denmark Hill, Camberwell,          | 50   | 0  | 0  |
| Thomas Horlock Bastard, Esq., Chorley, Dorsetshire,         | 6    | 0  | 0  |
| Sir Walter C. Trevelyan, Bart., Nettlecombe, Somersetshire, | 5    | 0  | 0  |
| George Baillie, Esq., Warwick,                              | 5    | 0  | 0  |
| George Combe, Esq., 45 Melville Street,                     | 5    | 0  | 0  |
| Miss Cox, 25 Rutland Street,                                | 3    | 3  | 0  |
| Robert Cox, Esq., W.S., do.                                 | 3    | 3  | 0  |
| Miss Douglas, Ainslie Place,                                | 3    | 0  | 0  |
| Mrs Leith Lumsden, Meggetland House,                        | 2    | 2  | 0  |
| Sir James Gibson-Craig, Bart, Riccarton,                    | 2    | 0  | 0  |
| Miss Carnegie, Dunccliffe,                                  | 2    | 0  | 0  |
| James Simpson, Esq., Advocate,                              | 1    | 1  | 0  |
| William Ivory, Esq., W.S.,                                  | 1    | 1  | 0  |
| John Oliver, Esq., High Street,                             | 1    | 0  | 0  |
| William Dunville, Esq., Richmond Lodge, Belfast,            | 1    | 0  | 0  |
| Miss Dunville, do. do.,                                     | 1    | 0  | 0  |
| Miss Stirling Graham, of Duntrune,                          | 1    | 0  | 0  |
| Misses M. and B. Combe, Edinburgh,                          | 1    | 0  | 0  |
| James Hay, Esq., Leith,                                     | 1    | 0  | 0  |
| Stirling Lacon, Esq., 19s. 2d.; R. R. Noel, Esq., 1s. 8d.,  | 1    | 0  | 10 |
| Miss Fitz-Hugh, Bannisters, Southampton,                    | 1    | 0  | 0  |
| A Friend,                                                   | 1    | 0  | 0  |
| Richard Carmichael, Esq., 24 Rutland Square, Dublin,        | 0    | 10 | 0  |
| Mrs Carmichael,                                             | 0    | 10 | 0  |
| Mrs Leith Lumsden, for prizes,                              | 0    | 2  | 6  |
| Carry forward,                                              | £227 | 16 | 8  |



|                                                                                        |      |           |              |
|----------------------------------------------------------------------------------------|------|-----------|--------------|
| Brought forward,                                                                       | £227 | 16        | 8            |
| School-fees received during the above period from<br>the children, at 4s. per quarter, | £56  | 16        | 6            |
| Less returned to two boys who were<br>dismissed.                                       | £0   | 5         | 0            |
| Deduct teachers' proportion<br>of do. repaid by him,                                   | 0    | 3         | 4            |
|                                                                                        |      | <u>0</u>  | <u>1</u>     |
|                                                                                        |      |           | 8            |
|                                                                                        |      | 56        | 14 10        |
| Amount received,                                                                       |      | <u>56</u> | <u>14 10</u> |
|                                                                                        |      |           | £284 11 6    |

### EXPENDITURE.

|                                                                                                                                 |      |    |    |
|---------------------------------------------------------------------------------------------------------------------------------|------|----|----|
| Salaries and proportions of fees to Male and Female<br>Teachers and Monitors, from 21st November 1848<br>to 21st December 1849, | £103 | 1  | 3  |
| Rent of School-house in Infirmary Street to 27th<br>July 1849, and Halls for public meetings,                                   | 10   | 3  | 6  |
| Fires and cleaning school,                                                                                                      | 9    | 15 | 2½ |
| Paid for school-furniture,                                                                                                      | 48   | 8  | 9  |
| School-books and stationery,                                                                                                    | 66   | 3  | 3½ |
| Freight of do. from London, and portorage,                                                                                      | 0    | 17 | 9  |
| Apparatus, &c.,                                                                                                                 | 7    | 13 | 5  |
| Printing prospectuses, circulars, advertising, postages,<br>&c.,                                                                | 15   | 4  | 10 |
| Sundries, towels, dusters, chalk, &c.,                                                                                          | 1    | 3  | 0  |
| Prizes to children,                                                                                                             | 0    | 18 | 7  |
|                                                                                                                                 | £263 | 9  | 7  |
| Balance in favour of the School,                                                                                                | £21  | 1  | 11 |

*Edinburgh, 6th April 1850.*—I have examined the detailed accounts, of which the foregoing is an abstract, and compared them with the vouchers, and hereby certify that they are correctly stated, and sufficiently vouched.

GEO. FYFFE,  
83 PRINCES STREET.

ON THE  
INTRODUCTION OF RELIGION  
INTO  
COMMON SCHOOLS.

BY ANDREW COMBE, M.D., &c.

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*(Extracted from his Life and Correspondence, page 501.)*

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"CONSCIOUS of the immense power of the religious sentiments in the human mind, and of the impossibility of separating them without violence from their vital union with the moralities, I have all along felt that the plan of excluding religion from education was inherently a defective one, which could not continue to hold its place against the assaults of reason and truth. In the past position of the question, it was the best which could be followed, and was defensible as the smallest of several evils among which society was compelled to choose. As such I still advocate and defend it; but I think it important that it should be defended and advocated on its true grounds, and not as in itself proper and desirable. Instead, therefore, of recommending the separation of secular from religious instruction, as in themselves distinct, I would adopt the true grounds, and in answer to the wish of some to make all education religious, say, 'Yes, I agree with you entirely that all education must be based on religion, and that the authority of God should be recognised by us all as the only infallible standard in everything; but, that we may know what we are talking about, let us understand distinctly what each of us means by religion.' Standing on such a basis, we cannot be shaken by either Jew or Gentile, Calvinist or Lutheran. Then comes the discussion, What is religion? A says it is a code embracing, suppose, ten principles in all. On examination, B, C, and D find that, say, *eight* of these refer to practical matters directly influencing conduct and character, and that they approve of them as true; but each affirms that the remaining *two* are church dogmas, untrue, dangerous to salvation, and deserving of all reprobation. For these B proposes to substitute other

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*Edinburgh: Maclachlan & Stewart. London: Simpkin, Marshall, & Co.*

*Price Twopence.*

two; but is, in his turn, voted wrong by A, C, and D. The latter two follow with *their* substitutes, and are each condemned; all, meanwhile, admitting the eight practical principles to be sound and necessary to happiness. Here it is plain, that if the children of all are to attend the same school, a compromise must take place; and, while all agree to leave out *the two* articles, they may cordially unite in teaching the remaining eight, and in endeavouring to insure their recognition by the pupils as their best guides, and as indispensable links in that religious chain which binds them to their Creator, and imposes upon them the primary duty of seeking to know and do His will in all things. This done, let the parents and priests teach what they deem truth on the two disputed points, *in addition to the religious principles thus daily and hourly inculcated and brought into practice among both teachers and pupils.*

"It may be said that this is what is done already. But there is a difference. At present the line of separation between religious and secular education is drawn sharp, and, in the school, the pupil is not taught that the natural arrangements he studies or sees in play around him, have been devised by Divine Wisdom for his guidance and happiness, nor are his feelings interested in securing obedience and gratitude to God as a moral and religious duty in return. The arrangements of nature are taught simply as 'knowledge' coming from nobody, and leading only to worldly advantage, not personal happiness. Religion, again, is taught not as the complement of that knowledge, leading the mind back to God, and bearing at every moment on our welfare, but as a something apart, which does not dovetail with our conduct or duties. In short, the prominent idea in the minds of both teachers and taught, under the present national system, is, that secular knowledge and religion are distinct, and have no natural connection; and hence neither exercises its legitimate influence.

"But the result will be different if it be recognised universally that, taught as it ought to be, all the knowledge conveyed is *inherently religious*, and calculated, *necessarily*, to bring the creature and the Creator into more immediate contact, and to develope feelings of love, admiration, reverence, and submission to the Divine will. Let it be proclaimed and understood that the inevitable tendency of knowledge is to lead the mind to the Creator, and that wherever it is taught without this result, there is and must be a defect of method, or a fault in the teacher, which ought instantly to be remedied. Let it be proclaimed to the four corners of the earth, that education, rightly conducted, *is* religious in the highest degree, although embracing none of the tenets peculiar to sects or parties, and that a 'godless education' is a contradiction and a moral impossibility. It would be as

logical to speak of a solar light without a sun. Every truth, moral, physical, or religious, springs from and leads directly to God; and no truth can be taught, the legitimate tendency of which is to turn us away from God.

"Instead, therefore, of giving in to the opponents of national education, and admitting a real separation between secular and religious knowledge, I would proclaim it as the highest recommendation of secular knowledge, that it is *inherently religious*, and that the opponents are inflicting an enormous evil on society by preventing philosophers and teachers from studying and expounding its religious bearings. If this were done, it would lay the odium at the right door, and shew that the sticklers for exclusive church-education are the real authors of 'a gigantic scheme of godless education,' in attaching such importance to their own peculiar tenets on certain abstract points, that rather than yield the right of conscience to others, they are willing to consign society at large to an absolute ignorance of the ways of God as exhibited in the world in which He has placed them, and to all the misery, temporal or eternal, certain to result from that ignorance.

"It must be admitted that, *as at present taught*, much of our knowledge is not religious; but this is an unnatural and avoidable, not a necessary evil, and it has arisen, in a great measure, from the denunciations of the party now opposed to the diffusion of education. By stigmatizing as infidel and godless whatever knowledge was not conjoined with their own peculiar creed, they deterred men from touching upon or following out the religious aspects of knowledge; and if they be allowed to maintain longer the wall of separation they have erected, the result will continue to be the same as in times past. The only way to meet them, is to turn the tables and *denounce them as the obstructors and enemies of religious education*, because they refuse to allow any exposition of the Divine wisdom, and arrangements, and will, which does not also assume the equal infallibility and importance of *their* interpretation of His written wisdom and ways. This is a tyranny to which human reason cannot continue to submit, and the sooner they are put on the defensive the better.

"Science is, in its very essence, so inherently religious, and leads back so directly to God at every step, and to His will as the rule of our happiness, that nothing would be easier, or more delightful, or more practically improving to human character and conduct, than to exhibit even its minutest details as the emanations of the Divine wisdom, and their indications as those of the Divine will for our guidance. In a well-conducted school-room or college-hall, the religious sentiments might be nourished with the choicest food *pari passu* with every advance in intellectual knowledge. The constant practice of

exhibiting the Deity in every arrangement, would cultivate *habitually* that devotional reverence and obedience to His will which are now inculcated only at stated times, and apart from everything naturally calculated to excite them. So far from education or knowledge proving hostile to the growth of religion in the minds of the young, they would in truth constitute its most solid foundation, and best prepare the soil for the seed to be afterwards sown by the parent and priest, who would then receive from school a really religious child fashioned to their hands, instead of being, as now, presented only with the stony soil and the rebellious heart.

“The practical inference from all this is, that while we continue to advocate the exclusion of *sectarianism* of every hue from our educational institutions, we are so far from wishing to exclude religion itself, that our chief desire is to see all education rendered much *more religious* than it has ever been, or ever can be, under the present system. To make religion bear its proper fruit, it must become a part and parcel of everyday life. It must, in fact, be mixed up with all we think, feel, and do; and if science were taught as it ought to be, it would be felt to lead to this, not only without effort, but necessarily. God is the creator and arranger of all things; and wherever we point out a use and pre-arranged design, we necessarily point to Him. If we can then shew that the design has a *benevolent* purpose, and that its neglect leads to suffering, we thereby necessarily exhibit the loving-kindness of God, and recognise it even in our suffering. If we next point out harmony between apparently unconnected relations, and shew how all bear on one common end, we necessarily give evidence of a wisdom, omniscience, and power, calculated to gratify, in the highest degree, our sentiments of wonder, reverence, and admiration. If we familiarise the mind with the order and laws of God’s providence, and their beneficent ends as rules for our conduct, the very reverence thereby excited will prompt to submission—systematic submission, because cheerful and confiding—to His will as our surest trust. Here, then, is the legitimate field for the daily, hourly, and unremitting exercise of the religious feelings in the ordinary life of man, and for the exercise of that true, vivifying, practical religion which sees God in all things, lives in His presence, and delights in fulfilling His will.

“The slender influence of sectarian religion in regulating the daily conduct of civilized man, and the exclusiveness with which its manifestations are reserved for stated times and seasons, together with the small progress which it has made in leavening the mass, furnish ample evidence that some grievous error deprives it of its legitimate power, and limits its diffusion. The more narrowly we examine the

matter, the more evident will it become that the sticklers for a sectarian education, as the only one allowable, are the great stumbling-blocks in the way of true religion, and that the ignorance which they cherish is the grand source of that apathy and irreligion against which they clamour so lustily. Science by them is reviled and despised as merely human knowledge. The epithet is ludicrously false and illogical. *All knowledge is divine.* All knowledge refers to God, or to God's doings. There is no such thing as 'human' knowledge in the proper sense of the word. What is true is of God, whether it relate to science or religion. What is not true is error, whether espoused by infidel or priest, Lutheran or Catholic, Mahomedan or Brahmin. Accurate knowledge (*and there is none other*) is not of human but of Divine origin. If man *invents* notions and styles them knowledge, that does not give them the character of real knowledge. They remain human inventions or errors as much as before. But whenever man discovers a *truth* either in physics or philosophy, either by accident or by design, he is certain that God is its author, and that if seen in its true relations to himself and to creation, it will be found characterised by the wisdom, power, and goodness of its divine source. Nothing can shake him in this belief. Stigmatize him as you will, his faith will remain firm and unhesitating, because he knows the attributes of God to be unchangeable and eternal. 'Godless education,' forsooth! It is an absolute contradiction in terms; and those who obstruct the progress of religion by such an outcry have much to answer for, and little know the evil they are doing.

"In times past man has erred by acting regardlessly of God's will and plans, and his reward has been misery and crime. Instead of attempting to create and legislate, let him study and understand what God has created, and the laws already imprinted *by Him* on all that exists. If his health is to be promoted, let him take for his guidance the arrangements made by God for the healthy action of his various functions, and *act in the closest accordance with their dictates*. If he has a social duty to perform, let him consult the moral law imprinted on his nature by the Deity, and copied into the records of Christianity. If he wishes even to brew or to bake with profit and success, let him study the laws of fermentation arranged by Divine Wisdom, and conform to the conditions which they impose as indispensable for securing the result. If he wishes to provide the means of travelling with speed and safety, let him study the laws of gravitation and of motion, and those which regulate the production and expansion of steam, and adapt his machinery to fulfil the conditions imposed upon their use by the Deity himself. If he does not, he will either fail or suffer. If he does, he will move along with speed and safety. If he wishes to have

his coat dyed of a fast colour, let him study the qualities which God has conferred on colouring objects, and the relations in which they stand to the properties of the wool, and conform to their indications, and he will have the guarantee of Omniscience for his success. In short, he cannot stir in the performance of any act or duty without either a direct or implied reference to the harmony and unchangeableness of the Divine laws. From thoughtlessness and an imperfect education, he may neglect looking deeper than the surface, and see only man and man's inventions, where, in truth, God reigns supreme and alone, hidden from our view only by the ignorance of man. Rightly directed, then, education, instead of being 'godless,' would confer its chief benefits by removing the curtain which hides God from our view. Instead of keeping Him, as an awful abstraction, in a background too remote from the ordinary affairs of life for either clear perception or wholesome influence, as is at present done by the sectarian religionist, science and education would reveal Him to the human understanding and feelings as an ever-present, ever-acting Being, whom it was no longer possible to forget, and whose care and watchfulness over us are equalled only by His attributes of benevolence and justice.

"Such, then, is the direct and legitimate tendency of that science and knowledge so unjustly stigmatized as 'human,' and 'secular,' and 'godless!' And why so stigmatized? Merely because its cultivators and teachers refuse to mix up with it certain dogmas of an abstract nature, on which the greatest differences of opinion prevail among the numerous sects which constitute the religious world! The truths on which all agree—truths proceeding from, and leading directly to God as their author and source, and replete with blessings to man—are to be deliberately excluded and denounced, and the disputed and abstract dogmas introduced in their place! What can be the results of such a course of proceeding? If the tree is to be known by its fruit, as the Scriptures say, we can have very little hesitation in declaring the existing tree of sectarianism to be not worth the cultivation; for the burden of the complaints of all so-called evangelical sects is, that, in spite of their utmost exertions, the cause of religion retrogrades—so much so, that, according to Dr Chalmers's estimate, even in our highly-civilized communities, not one in twenty, and, in many instances, not one in ninety or a hundred, lives under its influence, or knows what it is. Admit this picture to be correct in its main features, does it not point to some serious error, which silently undermines our utmost exertions? And if so, why persevere blindly in the same course, and obstinately refuse to tread another and more direct, though hitherto neglected, path to the same living and true God, whom we all seek and profess to adore and obey?

"It may be said that, *as now conducted*, education, when not accompanied by a creed, does not lead to God. That it does not in some schools, is true; and that in none does it go nearly so far in this direction as it might and ought to do, is also true. But this defect has arisen in a great measure from the very prohibition attempted to be enforced, of giving education without a creed; and it admits of an easy remedy the moment the prohibition shall be removed. Let it once be known that doctrinal creeds are no longer to be taught in schools as the condition of obtaining general education; but that, on the other hand, an accurate and extensive knowledge of the laws of God, as exhibited in creation, and as regulating man's whole existence on earth, will be considered indispensable in the teacher, and that his chief duty will consist in impressing on his pupils the living conviction that they can be happy in this world only in proportion as they act in accordance with these laws, and that it is God and not man who arranges and upholds the moral laws under which society exists; and then his task will become at once more pleasing and more successful, and every day will add to the facilities and aids which he will meet with in fulfilling it. Education will then be both moral and religious in its every phase; and its influence on conduct, now so small, will every day become more visible, because backed by the Divine authority. Education thus conducted would become the groundwork of that later and more practical education which is now acquired in the actual business of life, and compared with which our *present* school-education avowedly bears a very small value.

"To insist on connecting dogmas about the corruption of human nature, the Trinity, and the atonement, with the knowledge of external creation, is to insist on mixing up matters which have no natural connection or affinity, and which, consequently, can never be made to assimilate. Let it be assumed that man has fallen from his original condition, and that his nature is corrupt, the great fact remains, that *the world was created and received its present constitution from God before man fell*. Whatever may have happened to man, the laws of the universe were not changed. The heavenly bodies moved in their orbits in obedience to the same forces which still operate. In our own globe, we can demonstrate the present operation of the same physical laws which were in action thousands or millions of years before man was called into existence. It is worse than folly, it is impiety and rebellion against the eternal God, to say that a knowledge of His works shall not be communicated except in conjunction with a disputed creed, which does not and cannot change their nature; and yet this is what must happen if the opponents of national education have their way. The Christian revelation does not abrogate or su-



## 8 ON INTRODUCING RELIGION INTO COMMON SCHOOLS.

persede the pre-existing order of Nature. On the contrary, it rests upon it as the only basis on which the superstructure of revelation can be made to stand ; and therefore the more clearly the order of Nature is expounded, the more easily will the true bearings of Christianity be appreciated, and its principles carried into practice. To the orang-outang or the monkey, revelation is without meaning or influence, because in *their* nature it can find no resting-place, and no point of contact. To man it would be equally valueless, if its doctrines were not in harmony with his nature and constitution. And therefore, even if education were to be confined solely to religious instruction, the most successful way would still be to begin by cultivating and developing the groundwork or soil of natural religion, in which alone revelation can take root.

“ If neither the state nor the people are to be allowed to teach natural religion, and make use of it in promoting good conduct, then it matters little who has the charge of educating the people in our schools. So long as education is confined to reading, writing arithmetic, and the communication of the elements of knowledge without constant reference to its uses and its relation to its Divine Author, it will prove both barren and godless, whether accompanied by a creed or not. The only education worth having is that which is to influence conduct, and thereby improve our condition. If such education cannot be taught to the young, the more urgent the need to begin by enlightening the old who direct the young. If prohibited from teaching the children, let us begin by educating their parents. By perseverance we may produce an impression on their common sense in the course of time, and thus at last get access to schools. As yet, natural religion has never been taught to either old or young, and, therefore, it cannot be said to have proved ineffective. No single work exists, so far as I know, having for its aim to expound the close relation subsisting between natural religion and human improvement. The existence and operation of natural laws have been demonstrated, *but not their applications to, and bearings on, daily and hourly conduct.* Veneration has been hitherto supposed to have its true scope in the adoration of the Deity ; but its more important and equally elevated use in prompting to willing submission to His laws and authority as an earnest of our sincerity, has been almost overlooked. The religious and moral feelings have never been made acquainted with their own intimate and indissoluble union, or trained to act with the intellect in studying and obeying the natural laws.”

*Lady Dunsdale with the author's*  
**THE IMPORTANCE** *complement*

OF

# NATURAL HISTORY STUDIES

TO

THE ARTIST.

**A Lecture**

DELIVERED

AT THE SEVENTH PUBLIC DISTRIBUTION OF PRIZES

TO

THE PUPILS

OF

THE ROYAL DUBLIN SOCIETY'S DRAWING SCHOOL.

BY

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# THE IMPORTANCE,

&c. &c.

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MAY IT PLEASE YOUR EXCELLENCY,

Those departments of human knowledge which present the most direct relations to the social condition of man may be conveniently divided into the useful Arts and the Fine Arts. These have both, doubtless, preceded Science, in the strict sense of that term, and have originated independently of it; but yet as speculative truth advanced, and its practical relations appeared more evident, Art and Science became united into a closer sisterhood, mutually aiding and developing one another; so that the useful and Fine Arts may now fairly be viewed as the application of the abstract truths of Physical and Intellectual Science—the truths of the world of matter without us, and of the world of spirit within us—to the bodily and mental wants of the human race.

Upon each of these great classes of applied knowledge the Natural History Sciences exercise bearings both numerous and direct. With their direct influence, however, upon the useful arts, it is not now my intention to occupy you; and I propose, on the present occasion, confining myself to the relation in which Natural History stands to the Fine Arts, not only in the higher departments of these Arts, but in the subordinate, though most important one, of Design, a relation from which will be apparent the great value of Natural History studies in the creation of a pure national taste, and their consequent powerful, though indirect, bearing on the manufacturing industry of the land.

Among the various subjects on which the human mind has exercised its faculties, there would seem to be one which, perhaps more than any other, has tended to elevate the character and advance the civilization of our race,—I allude to the cultivation of the Fine Arts, or Art in the highest and most peculiar application of the term. It is just at this spot that we

seem, as it were, to step out of the domain of the mere physical inquirer, and enter upon that of the metaphysician. While the useful arts are mainly characterized by the applications which they involve of the truths of physical science, the Fine Arts go further, and, calling to their aid another department of human knowledge, present us also with an applied relation to the truths of metaphysical science. Their great object is the gratification of man's ardent longing after the beautiful,—a longing which assumes the nature of an essential appetite in our being, and which must be ministered to almost as certainly as the grosser, though scarcely more necessary appetites of hunger and thirst.

The faculty of appreciating beauty, the power of being agreeably impressed by the contemplation of a beautiful object, does not, I believe, find a place in any being lower in the scale of creation than man. In him, however, it universally exists in some form or other, from that high development which could originate the most glorious conceptions of Art, down to the lowest conceivable phase of the faculty, where it dimly shows itself in the scarcely symmetrical weapons and rude decorations of the Australian savage. I cannot, therefore, help looking upon this as the grand point of distinction, the essential difference by which the mind of man—viewing it now merely physiologically, and apart from its ultimate destiny, and its relation to the Creator—stands forth boldly and definitely, separated, from that of the various tribes of sentient beings by which we are surrounded.

Did the occasion for doing so now present itself, I might even go further; I might insist upon the close connexion between physical and moral beauty, and might endeavour to shew that the faculty by which we appreciate beauty in a material object is only a particular manifestation of that by which we become affected by beauty in a mental action, and that the cultivation of the sense of physical beauty necessarily involves a corresponding elevation of the sense of moral beauty. Without, however, entering at present into this most interesting subject of inquiry, which is rather the business of the moralist and metaphysician than of the naturalist, quite sufficient will yet, I trust, be adduced in the present paper, to convince us of the unspeakable importance of a refined and elevated taste, and of the great national duty of encouraging, to the utmost, a love of the beautiful among the people.

By a natural and imperceptible transition, the useful and Fine Arts pass one into the other, through the medium of Design, which, in the technical sense in which the term is here used,

may be viewed as the application of the principles of beauty to the arts of the manufacturer; and consequently whatever tends to advance the higher departments of art must have a corresponding influence on the progress of manufacturing industry.

Now, among the innumerable modes in which a knowledge of the Natural History sciences exerts an influence on human welfare, there are very few which deserve more earnest consideration than the necessary tendency of these sciences to create a correct and refined taste. It can easily be shewn that organized nature is the grand source from which our highest ideas of beauty are derived; and as this subject involves some very important principles, I shall request your attention for a few moments to certain leading facts which here present themselves.

In order properly to understand the matter now before us, it is necessary to bear in mind that a very curious difference in external form may almost always be detected between organized and unorganized bodies; unorganized bodies being, for the most part, bounded by straight lines and plane surfaces, while the figure of an organized body is included between curves. The crystal in some of its varieties may be taken as the typical elementary form to which inorganic figure is reducible, while the typical element of organic figure is the hollow sphere or cell. In this group of crystals you have an example of typical inorganic form; while in this diagram, representing one of the simplest expressions of vegetable organization,—the *Protococcus nivalis*, or red snow-plant, the principal cause of the beautiful phenomenon of rose-coloured snow observed in high latitudes and on alpine elevations,—you have each little plant, consisting of a minute red sphere, enclosing others within it, and affording an excellent example of organic form reduced to its simplest or typical condition.

Now the idea of symmetry holds a very important place in our conception of beauty; and in accordance with the principles just laid down, the symmetry of natural objects may be divided under two great heads, namely, the symmetry of the inorganic world and that of the organic; and these two classes require to be carefully distinguished by the artist. The symmetry of inorganic bodies, or minerals, consists in the regular repetition of similar planes in similar positions; it is the symmetry which strikes us in the crystal. In organic form, on the other hand, the plane, as we have just seen, can no longer be an element in symmetry, the plane surface and straight line being replaced by curves in infinite variety.

The curvilinear symmetry, moreover, or that of organized

bodies, presents itself under two very different forms, according as we observe it in the vegetable or the animal. In the vegetable it is referable to the *spiral* or *radiate* type,—as may be seen, for instance, in the mode in which the scales are arranged on this fir-cone, where we have a very perfect example of spiral symmetry: and botanists are now enabled to refer to the spiral all the organs borne upon the stem, however they may appear to deviate from this type, and their real symmetry be interfered with by disturbing causes. Radiate symmetry is a very obvious derivation from the spiral. If we imagine the axis of a spiral to vanish, so that all the revolutions are depressed and brought upon the same plane, radiate symmetry will be the result. This is seen in the several verticles constituting the flower, and is an occurrence of great frequency among plants.

In the animal kingdom, on the other hand, the proper symmetry is *bilateral*; that is, the similarity is confined to two opposite sides of the body, as in a bird, for example, or in a cuttle-fish or butterfly. When we descend, however, to the lower members of the animal kingdom, we meet with the gradual assumption of the vegetable or radiate form; and it is here, indeed, that the two kingdoms blend one into the other,—that we arrive at that strange region where not only the forms but the functions of the great organic kingdoms are so fused as it were together, that it is often impossible to decide upon the animality or vegetability of the mysterious beings which are found there. The recent investigations of comparative anatomists have indeed rendered it highly probable that, notwithstanding the radiate appearance of these animals, a true bilaterality exists. The subject, however, is one belonging to the higher departments of zoology; the universality of bilateral symmetry throughout the entire animal kingdom is a speculation whose truth or falsehood must be determined by profound zootomical research, and it obviously need not be taken into consideration in the artistic view with which we are here engaged. The numerous examples now before you, of animals belonging to the lowest groups of the kingdom, afford fine instances of radiate symmetry; and you cannot but be struck with the great beauty of form which many of them present.

A still further classification of symmetrical forms is a numerical one, and depends on the number of times the similar parts are repeated. This gives rise to a certain number of principal forms, as the trigonal, tetragonal, pentagonal, &c., to one or other of which every symmetrical figure is referable. It is the grand principle employed in the classification of crystals, where it possesses a most intimate and singular connexion with

the essential properties of the body ; and what is still more singular, and altogether unexpected, is the fact, that number assumes an almost equal importance among organized bodies ; certain great natural groups of the animal and vegetable kingdoms having their symmetry referable to fixed numerical systems, which, in an incomprehensible manner, are connected with important modifications in their physiological structure. Thus in the *Echinodermata*, and certain other radiated animals, the presiding number is 5, a number, strange to say, never met with in the inorganic world ; while in the *Acalepha*, or sea-nettles, 4 becomes the index of symmetry. Among vegetables, the great class of *Exogens*, as the rose and convolvulus, is also under the influence of the number 5 in the symmetrical construction of its flowers ; while in *Endogens*, as the lily and iris, 3 is the ruling number ; and in most of the groups occupying the bottom of the vegetable kingdom, 4 is found to be that under whose influence the symmetry of the plant is fixed. An acquaintance with the curious laws presiding over symmetry of form, and which the time at our disposal will not now allow me to do more than thus rapidly glance at, is evidently of much importance, not only in the higher regions of Art, but in the several departments of decorative manufacture. For a proper knowledge of the principles here imperfectly laid before you, a careful study of natural form is indispensable ; and it is most gratifying to see that the importance of an accurate study of nature by the artist is every day becoming more and more appreciated. To the decorative manufacturer, indeed,—though in these islands we are still behind our continental neighbours,—the necessity of Natural History knowledge has at last been fully recognised, and instruction in the natural sciences has been made an essential part of the system in the Government Schools of Design. The example in this has long since been set us in the schools of the Continent ; and it is an important fact, and one well worthy of the serious attention of all interested in the Arts of Design in this country, that in several continental towns,—as in the city of Lyons, for example, so celebrated for the perfection to which these arts have been there brought,—the manufacturers mainly attribute their eminence to the high estimation in which botany and zoology are held among them, and to the fact of these sciences being made an essential part of the course of instruction delivered in their schools. In the celebrated potteries of Sevres, also, the closest attention is given to the study of the forms of organic nature ; and while, in the English manufactories, the artists have seldom, until lately, had recourse to nature, otherwise than in the second-hand form of drawings,



often incorrect and unartistical, the French artists may have long been seen studying the original object, the natural flower or spray, as a suggester of ideas for their beautiful art. The long-maintained superiority of French designs over those of England is a subject so much dwelt on as to have become by this time thoroughly hackneyed, and I allude to it now merely in reference to the particular cause with which I believe it to be closely connected. Whether, indeed, we consider the unequalled designs in the potteries of Sevres, or in the silk manufactories of Lyons, we must be similarly struck with the share which a critical knowledge of animal and vegetable form has had in rendering the workers in the fictile and textile arts of France the successful rivals of the British manufacturer.

To enumerate the various forms in Nature which may, either directly or indirectly, be rendered available as models for the designer, would be to pass in review over almost the whole Fauna and Flora of the world. The exquisite foliage of the vegetable kingdom, the graceful curves of branches, and their elegant disposition on the main stem,—a disposition, moreover, which it must be recollected is constant for each species, and which the artist cannot violate with impunity,—and the wonderful symmetry and beauty of flowers, are everywhere before our eyes, and present us, if we will but study them, not only with a rich mine of suggestive thought, but with forms directly available in almost every department of decorative manufacture.

In the animal kingdom, the higher or *vertebrate* members have always afforded favourite matter for design; and nothing can surpass the appropriateness of many of the subjects derived from this source. The *invertebrate* classes, however, though presenting some of the most beautiful forms in existence, have in their capacity of artistic application been almost entirely overlooked. It is true that the elegant forms of shells have afforded to the designer models for some of his most successful works; yet it must be confessed, that even here the resources presented have never been availed of to the extent of which they are capable.

The limits within which a paper like the present must be restricted oblige me to confine my illustrations to a very few of the organic forms demanding from the artist a careful study; and in consequence of the neglect which the lowest, or radiate, tribes of the animal kingdom have hitherto experienced, my examples shall be chiefly taken from these singular and beautiful organisms. The neglect by the artist of the inferior forms of animal life may indeed be accounted for by the comparatively recent attention which these most interesting creatures have

received, even from the zoologist himself; and yet the exquisite grace of many, and the unrivalled symmetry of almost all the radiate tribes, will amply repay the artist for days of close and critical study. Even in that strange world of infinitesimals into which the microscope conducts us, and in those dubious beings which hover between animality and vegetability, forms of surpassing grace and sculpture of the most elaborate beauty are everywhere presenting themselves; and yet, strange to say, it is no easy task to call to mind the application of a single one of them to the humanizing purposes of decorative manufacture.

I have placed before you enlarged drawings of a few of the beautiful and highly suggestive forms to be met with among the various groups of radiate animals. Among these the *Echinodermata*, to which the star-fish and sea urchin belong, present us with some of the finest examples of radiate form in existence. In one beautiful tribe of star-fishes,—the *Crinoideans*, or feather stars,—the rays are elegantly feathered along the whole length. It is to this group that the fossil *Encrinites* and *Pentacrinites* belonged,—strange and beautiful beings which swarmed in the primæval ocean, but of which we have now only a single representative in the existing waters of our globe. In many also of the *Echinodermata* some of the most beautiful examples of colouring are to be met with, as in this gorgeous sea urchin, the *Echinometra mammellata*, in which we have the large, club-shaped spines of a rich purple, banded in a very elegant manner with white, and tipped with the most brilliant scarlet.

There are few who will not be struck with the extreme elegance of form in the *Medusæ*. These singular animals consist of a soft, gelatinous, but perfectly symmetrical body, usually of a hemispherical or umbrella-shape, though varying from the figure of a high cone or turret, through almost every degree of convexity, down to a nearly flat, circular disk. From the centre of the inferior or concave surface there projects a proboscis carrying the mouth at its extremity, while the margin of the body is frequently furnished with a beautiful fringe of long tendril-like tentacula, capable of being extended or retracted at the will of the animal, and at the root of every one of these curious and elegant feelers, and contrasting strongly with the crystal-like transparency of the creature, is a brilliantly coloured spot, which zoologists believe themselves justified in considering as a genuine eye. For excellent drawings of *Medusæ*, Professor Edward Forbes's elegant monograph, just published by the Ray Society, may be consulted with much advantage by the artist.

The mere zoological delineation of form, however, can do but little justice to these beautiful creatures. If the artist would know them as he ought to know them, he must visit them on a calm day in their native seas; he must witness them as they move slowly beneath his boat in the clear depths of the ocean, —some colourless and transparent as the purest crystal, others tinged with the most delicate hues of blue and purple and red, and all journeying onwards through the still waters with a slow and graceful motion, now dilating and now contracting, with alternate diastole and systole, like the pulsations of some mysterious disembodied heart, as they pursue their strange, unerring course through the silent ocean depths.

In this plate you have examples of some of the beautiful and highly interesting group of *Corals*. These wonderful productions are here represented in their living state. In the condition in which they are preserved in our cabinets, or employed in manufactures, we see only the internal stony skeleton; but when examined in the recent state this skeleton is found to be clothed with a soft and sensitive bark, often of the most vivid colours, and developing over its surface thousands of beautifully regular little flower-like organs, technically called polypes. A branch of living coral, viewed in its native element, and covered with its strange animal flowers, is a sight which in beauty can scarcely be surpassed. Dead coral is frequently introduced into ornamental design, but I know of no instance in which decorative Art has availed itself of the living animal, notwithstanding the occasions for its appropriate introduction which must be constantly presenting themselves. The coral of commerce affords an example of the branched or tree-like form; in others, again, as in the *Astreas*, the form is massive; while in this magnificent coral, the *Tridachophyllia lactuca*, we have one of the most perfect examples of foliaceous form that it is possible to conceive. In its living state the *Tridachophyllia* is gorgeously coloured, and we cannot imagine anything more eminently suggestive of architectural or other decorative foliage than this singularly beautiful animal.

In connexion with the true corals, I have placed before you magnified views of some of the beautiful *flexible corals*, or *corallines*, as they are commonly called; a tribe of plant-like animals which may be found in multitudes cast upon our shores by the waves, or parasitic upon sea-weeds, or attached to submerged rocks or old shells dredged up from deep water. So closely do they resemble plants, that the inexperienced observer will be almost sure to mistake them for genuine members of the vegetable kingdom. They are almost all creatures of great

beauty and grace; but little does the uninstructed wanderer on the sea beach dream, when he meets with them cast upon the shore along with genuine marine plants, and, believing them referable to these, calls them sea-weeds, and dries them on slips of paper as examples of oceanic vegetation,—little does he dream that every microscopic filament is replete with sense and happiness—little does he dream of one-half their beauty or one-half their mystery.

To obtain, however, a correct knowledge of these wonderful zoophytes, the microscope must be had recourse to, when hundreds of little transparent cups, or urn-shaped vesicles, will be rendered visible. Some of these are destined for the protection of the undeveloped young, while others are the calices of the elegant little sentient flowers, which may be seen expanding on the extremities of the branches, or blossoming over the surface of these extraordinary animals. “As for your pretty little seed-cups, or vases,” said our great painter, Hogarth, nearly 100 years ago, when writing to John Ellis about these very corallines,—“as for your pretty little seed-cups, or vases, they are a sweet confirmation of the pleasure Nature seems to take in superadding an elegance of form to most of her works, wherever you find them. How poor and bungling are all the imitations of Art! When I have the pleasure of seeing you next, we will sit down—nay, kneel down, if you will—and admire these things.”\*

In close zoological relation with the corals and corallines are the *Actinæ*, or sea anemones, a tribe abounding in beautiful species; and of these there is, perhaps, not one more beautiful than this singularly elegant animal, which I was fortunate enough to discover two or three years ago on the southern coast of Ireland, and for which, under the name of *Corynactis viridis*, I found it necessary to establish a new genus.

If a specimen of the sea-sand round our coast be examined under the microscope, we will be almost sure to find in it certain minute shells, often of the most elegant forms. They belong to a group called by naturalists *Foramenifera*, and are also found in millions existing in a fossil state in the chalk and other geological formations. In the plate before you I have given enlarged views of the *Lagenæ*, a genus of those forameniferous shells, and you cannot but be struck with the elegant forms they present. Indeed you can hardly speak of these little flask-shaped shells, with their ribs and flutings, as merely suggestive

\* Linnæan Correspondence, vol. ii. p. 44.

of works of ornamental Art; they are themselves perfect models, admitting of close imitation by the designer.

Even from our stagnant pools and ditches the microscope can summon forth hosts of forms which in elegance stand almost without a rival. The beautiful family of the *Vorticellæ*, those little lily-like animals, with their wreath of vibrating cilia and spirally contracting stems, and the almost countless multitudes of *Diatomaceæ* and *Desmidiæ*, of which several enlarged drawings are before you, present to the designer forms richly suggestive. They abound in our still waters during nearly the whole of the spring, summer, and autumn months, and have only to be sought for to be found.

The several examples now adduced are but a very small number of the multitudes of organic forms of which the decorative manufacturer cannot with impunity be ignorant; on their practical application and the peculiar adaptations of them which the artist may find it necessary to employ, it is no part of my duty to insist. Indeed I feel certain that the direct application of most of them to ornamental design would be an experiment of whose success much doubt may be entertained; and I would attribute a large, if not the principal portion of the advantage which the artist may expect to derive from them, to the peculiar mental training which their study necessarily involves, and to the storing of his mind with ideas of symmetrical and beautiful organic form.

But in the higher departments of Art—in Architecture, Sculpture, and Painting—an accurate and critical knowledge of organic form is no less necessary. Since the occurrence of the curve is mainly to be sought for in organic nature, it is manifestly from this source that our highest ideas of beauty are derived; and here, accordingly, must we expect to find the origin of the most sublime conceptions of Art, of those wondrous creations which have given life to the canvass and thought to the marble, and brought heaven into closer union with the earth, as the springing shaft, and pointed arch, and music-flooded aisle declare how glorious and how holy a thing is Beauty, twin sister of Religion,—a heavenly sojourner upon earth, sent to cheer us on the rugged pilgrimage of humanity, and point to bright glimpses of the spirit-land.

To refer you to innumerable instances in which the forms existing in organic nature have become either the direct models or the suggestors of all that is most beautiful in high Art, would be a task easy of accomplishment. As far as Architecture is concerned, you will at once be reminded of the well-known story of the origin of the Corinthian capital, where we are told

that a basket covered with a square tile, and accidentally set down upon a young acanthus, became soon surrounded by the growing leaves of this elegant plant, and thus afforded the type of the beautiful capital of the Corinthian order. Whether the story be true or not, however, is a matter of little consequence, for the fact still remains of the acanthus having suggested one of the most beautiful conceptions of Grecian Art. The plant called *Nelumbium speciosum*, on the other hand, is, in all probability, the sacred lotus of the Nile, which held so high a place in the mythology of the ancient Egyptians, and, along with the palm and reed, plainly presented that extraordinary people with the origin of the capitals of their columns, and the various decorations of their mystic edifices.

The beautiful decorations of Gothic architecture have almost all their origin in organic forms; its elaborate foliage and flower ornaments, and the flowing tracery of its decorated windows, are proofs of how closely Nature must have been studied by the great architects of old. Even the fanciful and grotesque spouts and corbels are still in accordance with certain great laws of natural form, which the architect, even in his most eccentric mood, would not dare to violate; and I cannot think we are altogether justified in rejecting the supposition that the pointed arch of the Gothic church was suggested by the graceful intertwining of the branches of the trees which formed the columns of the sublime cathedrals of our forefathers, —those temples not made with hands, the ancient forest sanctuaries of the land.

To the sculptor and painter, also, a knowledge of organic form, such as can only be obtained by close and critical study, is absolutely indispensable. Unless this knowledge be possessed by the artist in the very highest sense, whatever merit in other respects his works may exhibit, they will still be miserably deficient in truth. So far as this remark applies to the necessity of a knowledge of the anatomy of the human figure, there are few at the present day who will venture to dispute it; and yet, by a most unaccountable inconsistency, the neglect of conferring on the young artist preliminary instruction in the forms impressed by Nature on the inferior classes of organic existence is a subject which seldom calls forth a moment's animadversion; just as if the glorious world which surrounds us, with all its myriad tribes of animal and vegetable life, springing, and developing, and bursting into ever-varying forms of exhaustless beauty, were beneath the attention of the artist, and that Nature, with all her bright, and pure, and unutterable loveliness, would bear to be traduced, and vilified, and tortured on his canvass.

I do not now mean to assert that the young artist should spend his valuable time in learning the minute scientific details of zoology and botany; but I do strongly insist on the necessity of a knowledge of the great leading truths of these sciences. In botany, for example, he should be made acquainted with the leading principles of natural classification, with the general habits and geographical distribution of plants, with the laws which preside over vegetable form, and with the principles of vegetable symmetry, and the nature of the causes which interfere with this symmetry; above all, he should be rendered thoroughly acquainted with the great physiognomical groups of the vegetable kingdom,—those leading types of form which have been impressed on vegetation, and in accordance with which the entire mass of plants existing on the surface of our globe may be divided into a certain number of well-marked classes, without any necessary reference to their structural affinity, and entirely dependent on external or physiognomical form. This is essentially the classification of the artist, and demands from him a large share of his attention. I have placed upon the table a few examples of these great physiognomical groups, which are of themselves sufficient to prove the necessity of a knowledge such as that now insisted on. The forms here selected, almost at random, are, among the exogenous plants, the *mimosa* form, the *pine* form, the *cactus* form, and the *cycas* form; while with these I have contrasted a few endogens, namely, the *palm*, *bunana*, and *reed* forms, while the beautiful form of the *ferns* stands forth distinct from all. The examples now before you constitute but a very small number of the physiognomical groups of vegetation; their differences, however, are sufficiently marked to strike even the uneducated eye, and to convince us of the important part which the physiognomy of vegetation should occupy in the early studies of the artist.

I doubt not, however, that some will say that a specific rendering of natural forms is not the business of the artist; that he must generalize his animals and trees, and, therefore, needs not that intimate acquaintance with nature which is here insisted on. Upon this subject I cannot, perhaps, do better than quote from one of the most remarkable writers of the day,—a man who has done more in establishing sound principles of criticism in Art than perhaps any other author either of our own or former times.

“The great masters of Italy,” says the Oxford Graduate, in his celebrated work on Ancient and Modern Landscape Painters,—“the great masters of Italy, almost without exception, and Titian, perhaps, more than any (for he had the highest knowledge of landscape), are in the constant habit of rendering

every detail of their foregrounds with the most laborious botanical fidelity. Witness the 'Bacchus and Ariadne,' in which the foreground is occupied with the common blue iris, the aquilegia and the wild rose, *every stamen* of which latter is given, while the blossoms and leaves of the columbine (a difficult flower to draw) have been studied with the most exquisite accuracy. The foregrounds of Raffaele's two Cartoons, 'the Miraculous Draught of Fishes' and 'the Charge to Peter,' are covered with plants of the common sea colewort (*Crambe maritima*), of which the sinuated leaves and clustered blossoms would have exhausted the patience of any other artist, but have appeared worthy of prolonged and thoughtful labour to the great mind of Raffaele. It appears then not only from natural principles, but from the highest of all authority, that thorough knowledge of the lowest details is necessary, and full expression of them right, even in the highest class of historical painting; that it will not take away from or interfere with the interest of the figures, but, rightly managed, must add to and elucidate it; and if further proof be wanting I would desire the reader to compare the background of Sir Joshua's 'Holy Family' in the National Gallery, with that of Nicolo Poussin's 'Nursing of Jupiter,' in the Dulwich Gallery. The first, owing to the utter neglect of all botanical detail, has lost every atom of ideal character, and reminds us of nothing but an English fashionable flower-garden, the formal pedestal adding considerably to the effect. Poussin's, in which every vine leaf is drawn with consummate skill and untiring diligence, produces not only a tree group of the most perfect grace and beauty, but one which, in its pure and simple truth, belongs to every age of nature, and adapts itself to the history of all time. If, then, such entire rendering of specific character be necessary to the historical painter in cases where these lower details are entirely subordinate to his human subject, how much more must it be necessary in landscape, where they themselves constitute the subject, and where the undivided attention is to be drawn to them?\*

Again, the great painter observes "every character of the plant's colour and form; considering each of its attributes as an element of expression, he seizes on its lines of grace or energy, rigidity or repose; notes the feebleness or the vigour, the serenity or tremulousness of its hues, observes its local habits, its love or fear of peculiar places, its nourishment or destruction by particular influences; he associates it in his mind with all the features of the situations it inhabits, and the ministering

\* Modern Painters, Preface to Second Edition, p. xxvii.



agencies necessary to its support. Thenceforward the flower is to him a living creature, with histories written on its leaves, and passions breathing in its motion. Its occurrence in his picture is no mere point of colour, no meaningless spark of light. It is a voice rising from the earth, a new chord in the mind's music, a necessary note in the harmony of his picture, contributing alike to its tenderness and its dignity, nor less to its loveliness than its truth.\*†

I have extracted thus largely from this remarkable book, because I look upon the points here urged as of vast importance, and lying at the foundation of all sound criticism. Besides the particular works referred to by the Oxford Graduate, many others from the great masters might, did time allow of it, be here adduced as illustrative of the particular point under discussion. In this beautiful Madonna, for example, called "*La Vierge aux Rochers*," and attributed to Leonardo da Vinci, we have an admirable example of the profound attention paid by the ancients to the truth of vegetation. The fidelity with which in this picture the details of vegetation are expressed cannot be surpassed; and the little wild rocky fastness, with its holy group, and its palm, and lily, and columbine, and iris, all steeped in the deep religion of this wondrous scene, sink irresistibly upon the heart, and proclaim the mighty power of the faithful representation of Nature's truth.

Now Leonardo da Vinci was not only a great painter but a great philosopher; his delight was to investigate the recondite powers of Nature, and the animal and vegetable creation became the subject of his most profound and thoughtful study. Thus was his mind stored with images of faultless truth, as the works of this great master so gloriously testify.

The lessons of Leonardo da Vinci were not lost on his immortal pupil, Raffaello, and the accessory vegetation in the works of the divine painter almost without an exception present a truthfulness which gives to the picture half its charm. Take, for example, a beautiful picture of the Virgin, with the infant Jesus and Saint John, and of which the print before you will serve to give you some idea. In this picture there is in the left of the foreground a wild crysanthemum, every leaf and floret of which is painted with botanical accuracy, while the plants of potentilla and the masses of umbelliferous foliage in the centre and right of the foreground are no less rigidly true to Nature; and yet in all these there is no sacrifice of high Art to detail; for the vegetation of the great Italian painters is

\* *Modern Painters*, Preface to Second Edition, p. xxxiii.

most radiant with ideal beauty at the very time when it departs least from the truth of Nature.

In the same way it would be no difficult task to point out instances of the close attention given to *zoological* truth in the works of the great masters; the hour, however, warns me that I have already made much too great a demand on your patience, and I shall therefore merely refer you to the celebrated "Lion Combat" of Rubens,—a grand picture, of whose noble composition and truth of form this masterly drawing, by my friend, Mr. Burton, will convey to you a faithful idea.

The examples thus adduced must be sufficient to convince you how absolutely indispensable to the artist is an accurate knowledge of the forms presented by Nature: many other instances might be referred to, all bearing out the same great truth; and indeed in the selection of those now laid before you I have been influenced more by the facility of obtaining prints of the original pictures, than by any pre-eminent or exclusive truthfulness in the works themselves.

Let me, however, not be misunderstood; the painter must be no mere imitator even of Nature, for, with all his efforts, how far, far short must he fall of the utterly inimitable original! The attempts to give an exact imitation of natural sounds in music, or of natural forms in painting, must be alike abortive, and alike incompatible with high Art. The most finished portrait of external form is, if it go no deeper, all but worthless; the shape of the leaf, the asperities of the bark, the tinting of the flower, may be all there, as far as paint and pencil can convey them, but Nature is not with them; the material body, lifeless, passionless, soulless, may be present, but the spirit which animated it is away; and he who has no higher conception of Art must fail, miserably fail, in touching one deep feeling within us, in awakening one sympathy of the heart for his cold paint and canvass.

Higher and holier is the mission upon earth of the great painter; far beyond the sphere of mere imitation is the region of thought in which he dwells—form and colour are to him but the external symbols, the significant language of an in-dwelling spiritual life. Of the artist, in the true sense of that honoured name, it can never be said that

"A primrose by a river's brim,  
A yellow primrose was to him,  
And it was nothing more."

He reads a deep meaning in every blossom and in every spray,  
and

" The last red leaf, the last of its clan,  
That dances as well as dance it can ;  
Hanging so light and hanging so high,  
On the topmost branch that looks up to the sky,"

is to him full of mysterious import—an import which it is his high privilege to comprehend and to reveal; and his works are the expression to mankind of those lessons he has read in Nature—of that beauty, and truth, and good, which, deep beneath the surface of the external world, invisible to profane eyes, unveil themselves to his purified sense.

Few they are, however, who are thus admitted to the penetralia of the great temple. Days, and nights, and years of thoughtful and wearying study must be passed, and pure must be the heart, and high the soul, of the aspiring neophyte; for on such only can the glorious mission be conferred by which the artist becomes a great high priest to his fellow-men, intrusted with the duty of making them wiser, and better, and happier. All mankind are his congregation,—the temple in which he ministers, the world; for to him the wide-spreading earth, and everlasting hills, and o'er-arching heavens, are the floor, and the columns, and the roof of a Holy of Holies, where the Shechinah of God's presence dwells for ever !

THE END.

*Miss Mary Drysdale*  
14. *Robertson & Co. Glasgow*

# LETTER

TO

THE RIGHT HON. DUNCAN M'NEILL,  
LORD ADVOCATE FOR SCOTLAND,

ON THE

DISCUSSION BETWIXT THE HONOURABLE THE BOARD  
OF TRUSTEES IN CONNEXION WITH THE  
ROYAL INSTITUTION,

AND

THE ROYAL SCOTTISH ACADEMY,

REGARDING

THE FINE ARTS IN SCOTLAND;

FROM

DAVID SCOTT, Esq., R.S.A.

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Gratum est, quod patriæ civem, populoque dedisti,  
Si facis ut patriæ sit idoneus, utilis agris,  
Utilis et bellorum, et pacis rebus agenda.

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JUVENAL.

EDINBURGH:

ALEXANDER HILL, 67, PRINCES STREET,

PUBLISHER TO THE ROYAL SCOTTISH ACADEMY OF PAINTING,  
SCULPTURE, AND ARCHITECTURE.

MDCCCXLV.

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EDINBURGH : PRINTED BY T. CONSTABLE,  
PRINTER TO HER MAJESTY.

EASTER DALRY HOUSE, EDINBURGH,  
19th September 1845.

MY LORD,

FROM the duty attendant upon your official station, to watch over the general interests of Scotland, I beg most respectfully to be allowed to address to you a few observations on a discussion at present pending betwixt the Honourable the Board of Trustees for Manufactures, in connexion with the Royal Institution for the Promotion of the Fine Arts, and the Royal Scottish Academy of Painting, Sculpture, and Architecture; the proceedings giving rise to which are stated to be countenanced by the Lords of her Majesty's Treasury.

It is of importance to know things by their right names. Of pseudo public benefits there is no unfrequent recurrence. There is no manner of false and meddling interference which does not assume the profession of making the public good its concern. Under this semblance a proposition has lately been made to remove the pictures left by the late Sir J. Erskine of Torrie to the University of Edinburgh, from the room which they occupy in the College, and to place them in the building of the Royal Institution; from doing which, it is intimated by the executives of the Honourable the Board of Trustees, and Directors of the Royal Institution, who usually act for these bodies, that henceforward there will not be accommodation for the Royal Scottish Academy in that building. But this is not a sufficient, or the sole cause for the threatened interruption of the arrangements of the Academy. It originates in a spirit hostile to that institution; of which, were there not many other evidences, the operation would be fully evinced by the fact, that when the gentlemen entrusted with the pictures in question found their removal to the Royal Institution was made a plea to cut off the Academy from the use of those apartments which it has held there for its exhibitions and meetings, and proposed that these pictures should be placed there under conditions which would cause no interruption of existing arrangements, or hurt in any way, another and secondary appropriation has been devised for the apartments.

But although the question which has here come into agitation is that of the accommodation of galleries for the Royal Scottish Academy, its bearing is not alone confined to this. The question, in its true and principal meaning is—Is this, the National Academy of Art, when its interests are threatened, (even although

that is in a respect which might, in one sense, be considered easily overcome, but the results of which in reality, as shall be shown, would be most hurtful,) to be supported or not? Are those arts, of which the Academy is representative, to be recognized in it, and its endeavours seconded? or are its objects, the importance of which no one will deny, to be crippled, and set aside, so far as lies in the power of a very small party, but who unfortunately act under the name, though, it is strongly believed, not under the cognizant sanction, of an important portion of the most influential noblemen and gentlemen of Scotland, and even of a branch of the Legislature.

It is not necessary here to bring forward arguments in exposition of the purposes of the fine arts; or to enter upon any reference to their general nature and value, or of their effects in operating relation to society; but it is necessary to claim a connexion with these for the Academy, by which as an institution of the country they are represented in Scotland; which being kept in view, the inquiry must immediately suggest itself, how it should be that without some very evident cause, the Academy should meet with opposition from the Board of Trustees, and the Royal Institution, two bodies professing a like foundation for their efforts.

But what are the facts of the state and management, of the Board of Trustees and the Royal Institution? What are the motives which impel them,—one of them partially, and the other wholly formed for the purpose of promoting art,—to impede the Academy? Who (and this question will be reiterated elsewhere,) in truth manage in the name of these bodies? Both of them have sums of public money at their command; and it is fit that the public should really know to whom its disposal is committed. To whom, then, do the members of these institutions entrust their concerns and character, their responsibility and their influence?

In their transactions with the Academy, these have almost entirely been in the hands of nominally a quorum, or very small committee; but virtually, for the most part, in those of one individual. It is easy thus to see how motives, and feelings, may have been strongly brought into play, which should find no place in matters which ought to be conducted on wide grounds; and thus it has happened that transactions have been proceeded in, in their general name, which the mass of their members, were they brought together, would never sanction, or lend their countenance to. But in the present instance the transactions of this figment of their members (for the business of both is mostly in the same hands, however much an appearance of dis-

tinctness is kept up,) is of too important a nature to be dealt with in this manner. The state, and whatever affects the progress of the arts, are now too much under the attention of Government, to allow any question which affects their well-being in any portion of the country, to be regulated by any other than openness of procedure; which consideration has the more readily led me to address your Lordship on the subject.

The building of the Royal Institution was erected under a combination of circumstances. These in a formal statement it would be easy to detail;—they have for the most part been repeatedly referred to in the documents connected with this question. But one point which it is particularly necessary to observe, is—*that large grants were obtained for its building from public funds; a principal purpose in its erection being, that it was to be leased for exhibition galleries for the promotion of art.* This, the intended appropriation of the galleries by the Royal Institution—the exhibitions of which had at first consisted of old pictures,—commenced by exhibitions of the works of the then artists of Scotland. In the prospectus of the Institution, issued in a circular previous to the opening of the building in 1825, it is stated, that it “had been determined that *the* exhibitions of the works of living artists shall be opened in the new rooms.” This specifies the intention of the members of the Institution,—and the appropriation of an important part of the building, at the time of its erection. The extent to which the fine arts were prosecuted, and the attention which was given to them, had gradually been increasing in Edinburgh—one marked proof of which was the establishment of the Royal Institution itself; and thus after different attempts to organize exhibitions, and bring the subject forward on a proper footing, Government had, through the Trustees, in conjunction with the members of the Royal Institution, (the latter having engaged to lease the apartments “for the promotion of art,”) furnished funds for the erection of exhibition galleries. And those of the nobility and others who had subscribed, became members, upon this among other conditions, (which is here mentioned, to show that they were considered to have a permanent right in these rooms *as thus* appropriated,) that they were to have admission to the exhibitions which were to take place there.

The Directors of the Institution went on for a time fulfilling this their originally contemplated purpose; but differences having arisen betwixt that portion of them who conducted it, from the narrow importance, and crude self-sufficiency of their management, the associated artists discontinued to exhibit there; and



the Royal Institution became almost entirely, as an operative body, extinct. Its principal intention was for years unfulfilled. By illiberal and petty management, the great expense to which the country had been put, was rendered useless. And now comes in addition a noticeable fact. There being no funds drawn, a grant was derived from the Board of Trustees (the executive of which consisted of its own most active directors) to enable it nominally to pay the rent, and in the eyes of Government and the public, keep up appearances, while the object of its existence, so far as it was concerned, was no longer accomplished. In its difficulties, £500 a-year was conferred upon it by the Trustees, who received back £380 as rent; the remaining £120 may have paid officers who were no longer necessary. The open and just proceeding at this stage of matters, had these double Directors, who took this money out of the one pocket to put it into the other, really had the interest of their professed purpose at heart, would, instead of such a manœuvre, have been to offer the rooms to the Academy. But they were allowed to remain useless, both compelling the artists and the public to resort to altogether inferior exhibition galleries; which was the case until 1835, when the Academy again appropriated them to their original use, by an agreement with the Institution and the Board, which was in truth a sort of compromise betwixt their difficultly admitted sense, that the time was come when the claims of the Academy must either be acknowledged by them, or that they must in the eyes of Government (had it become aware of the facts,) and of the public, have fairly denied their own professions. From this period the Institution has dozed a *quasi* life. Its annual meetings were advertised; it received £105 from the Academy; and its old pictures were always open during the long vacation. A few days ago, however, it made a galvanized movement, in the hands of its Secretary, in the form of a letter addressed to the Academy,—the only one possibly which he has been called upon by its concerns for years to write—and the terms of which are such as to lead to the belief, that, whoever dictated such a letter,—for it is questionable if the Secretary had any hand in its composition,—has ceased to regard both respect to himself, and to the proprieties of society.

The original application of the building was, however, carried forward. The first and most prominent object of the subscribers was kept in operation; though not through the Royal Institution as an active body. The galleries, and the purpose for which they had been erected, had fallen into the hands, which the result has shown, were fittest to apply them. For ten years they have been occupied by the Academy, and the question will now

come to be asked of the Members of the Royal Institution (not of its quorum or committee,) is the intention for which they combined and subscribed—for which funds from the public revenue were afforded to erect a house which they were to devote to the uses necessary in effecting this, to be henceforward, so far as they are concerned, set aside? Or the community of Scotland may ask them, do they not regard this purpose much more than the mere footing upon which it at first took place? Their committee were unable to effect it. They subscribed, and wished their names to be prominent in the support of art. One means of extending and strengthening its operation, was justly considered to be that of having public exhibitions of the works annually executed in the country, brought together in a building known by the public to be appropriated to this use. Had such not existed through the hands of the Royal Institution, it would undoubtedly long ere this have been supplied. But the Institution effected this, and in thus aiding the facilities for the yearly exhibition of Scottish art, by which the inhabitants of Edinburgh, and of Scotland generally, might learn what was produced in this department of mind in the country, which they could not otherwise have arrived at or participated in, they conferred a national benefit; and the exhibitions held in the Royal Institution have grown into a theme of interest and regard, which the enlightened, and even the humbler classes, will not now forego. Their suppression there would bring an outburst of odium upon every one implicated in forwarding such a procedure.

And this is now threatened to be done, by those too who associated themselves for the very contrary. And that in the face of an agreement, which although not entered upon with any specification of time, was believed by the Academy to be permanent, and merely the commencement of extensive measures which were ultimately to be carried forward. But it must be repeated, the proposal is not a transaction of the body of Members of either the Royal Institution or the Honourable the Trustees. "The Queen is President, Prince Albert is Vice-President of the Institution," and a number of the nobility are its patrons, and Commissioners of the Board of Manufactures; would they, were they acquainted with such schemings, ever countenance them? Are all and each of these, to turn their backs upon the intention for which they combined? Worse, to allow that intention, both in their public capacity and in their individual act as members of these bodies, to be met by decided and hurtful opposition; for, if the Academy can be supposed to be pushed out of the Royal Institution—than which there is no other place in Edinburgh adapted or suitable for its exhibitions,—it will be a proceeding

fraught with most injurious opposition to the fine arts throughout the country. It would in an important sense, and that at a time also when the heads of her Majesty's Government are endeavouring extensively to promote and confirm the influence of the arts, be a separation of the interest and auxiliary countenance of a large portion of the rank and authorities of the country from the cause. But it is impossible that this can be allowed to take place, however much it is an endeavour that the present management of these bodies are labouring to accomplish.

The Royal Institution has here been principally referred to, it being apparently the source from which the Academy holds the apartments, but it in reality is a mere appendage to the Trustees; and in this transaction the one is so mixed up with the other, that each may be considered to represent the other, though, as already observed, they appear in any official communication to be distinguished with considerable precaution. This serves a double purpose; it keeps up the apparent importance of both; and to those not acquainted with the circumstances, arrays a greater seeming strength against the Academy. It is not difficult to see how the Lords of the Treasury might feel affected towards any application of the Academy for an endowment, (their refusal of which is referred to with evident gratification in one of the letters of *the Board*), when it would appear to them that they had already allowed £500 annually to be drawn from the Trustees, to pass into the hands of the Royal Institution, for the directly avowed purpose of "promoting the fine arts." But sad indeed would be the dependance of the arts that it could *promote*. It has been seen what meaning is to be attached to this grant—a hollow scheme to save the exposure and extinction of what, in the language of an eminent thinker who denounces unrealities, must be denominated a sham. And this grant has been recommended, by those who both give and receive it, to the Lords of the Treasury (who are likely to be very partially acquainted with the subject), to be continued, on the grounds that the Institution gives the use of the old pictures which it possesses to the school of the Trustees; while no notice is taken of the same having been done by the Academy with the pictures which are its property; which have been used by the students for the same period, and to an extent quite equal to those of the Board. But the value by which to test this reason, is to ask the Trustees upon what grounds they originally gave this grant, when there was no such use derived from these pictures, when for years it was nominally paid, and there was no application of them to schools?

This is not, however, the only portion of the composition and

transactions of these bodies, which must come under Carlyle's unmasking appellative. Their managers are now, like what many others of every grade have done before them, by self-seeking dictation, instead of pursuing what ought to be their legitimate duty, pushing their power towards its end; they are forcing on its denial. Filled with crass schemes, and the judgmentless gratification of feelings and ends, which ought to have no place in their doings, the Trustees, instead of being an establishment which has gone on for a great part of a century doing unostentatiously somewhat of good, has become active to do mischief. Its responsibility to the public rests in this origin. It was established by Government to apply a portion of funds derived from the confiscation of property which took place after the Rebellion of 1715. This was to be directed towards the improvement of Arts and Manufactures, its original designation. Now, it is the Board of *Fisheries* and Manufactures. It is the only body to which any portion of public money has been committed in Scotland for any purpose at all connected with Art, with the exception of the Royal Institution as before noticed. Strictly, its sphere related to the industrial Arts; but from the dependence of these, in some branches, on the Fine Arts, the Academy of the Trustees, which was at first established for Pattern Drawing, gradually became to be for Art in the higher sense. At the period of the establishment of the Board, the attempt to produce superiority in ornament was putting a secondary before a primary cause, and by degrees by an unconscious, but necessary process, the Academy of the Trustees fell into the way of, in some measure remedying this. It was for many years a Drawing Academy almost exclusively for Artists. Now, however, it has again professedly reverted to its original purpose, but with the intention of combining the other. In this the connexion of the Trustees with Art, has consisted. But its proceedings of late have in too much lost reality for their foundation; and they must meet the fate which attends this. The quantity of "words mere words" in their documents, about the "efficiency," "advantages," "arrangements," &c. of their measures—their references, and those of the Royal Institution, to the separate acts of these Siamese-twin bodies, and to the higher authorities, are, to any one acquainted with the details, amusing; but at times excite very different feelings. To mention one instance—a reference is made in a letter from the Board, (not however written by its Secretary, for it is supposable that he would gladly avoid as much as possible taking the responsibility of some of its details,) to a "plate-glass case," of which great care is necessary to be taken; but care which cannot be afforded unless under certain

supposed circumstances, "The Lords of Her Majesty's Treasury" permitted an additional relay of servants to the establishment; and an opportunity is taken, in connexion with the mention of those Ministers of Her Majesty, to insinuate that they would not allow this to be done on account of the Academy. Now, it is questionable if the Lords of the Treasury, with whom, by this preposterous seeming, the responsibility of this poor matter is made to rest, were at all consulted, when two officials were lately added to this very part of the establishment;—when two situations were found, one a curator of pictures, and another under him, for two former dependants of one of the most prominent of the Directors, whose places had become vacant. The plate-glass passage, runs thus, "for their protection (bronzes) it has been found necessary to procure, at a *very* heavy cost, a *valuable case* covered with LARGE PLATE GLASS, which, when *once* placed, could not be removed without both *hazard* and *expense*, as it would require to be taken to *pieces* on each removal. This in *addition* to the *danger* of *fracture* and *injury* to the *bronzes* would occasion a degree of trouble and labour to the officers of the Board, which would be *perfectly intolerable*, and for which their numbers are quite inadequate. Or if the case were allowed to remain in *its* position, the crowds which attend the modern exhibitions would *necessarily* endanger both *it* and *its* contents. No doubt the *latter inconvenience*, (the deficiency in the number of attendants,) might in *some* measure be obviated by Her Majesty's Government (!) enabling the *Board* to maintain an additional *establishment*; and it is not supposed that were it felt that the objects of the Royal Scottish Academy, however *laudable* in themselves, give them any *pretension* to aid from the public funds, such would not be afforded. But," and here follows the estimate of the *Board* of the purposes of the academy—it is needless to say how likely to be correct, partaking as it does of the quality of the above quotation. It is with reluctance that I have found myself obliged to advert to such matters, and to bring them before your Lordship, but it appeared necessary to exemplify the staple so often dealt in by the Board for the encouragement of *Manufactures*. And in this in reality lies one of the principal grounds assigned for the Academy not being allowed, as hitherto, the use of the Exhibition Room of the Trustees. Can such a thing in sober seriousness be advanced to those to whom it is addressed, namely, the Trust of the Torrie pictures, and through them to the Academy, and lastly, to the Members of their own Board, altogether leaving the Lords of the Treasury out of the question?

Permit a few words in regard to the Torrie "Collection" of

pictures. Without any unjust disregard of the gift to our University ; and with every respect for the meaning of the donor, and conviction that those to whose hands he committed its charge, desire to fulfil their trust faithfully,—this title must be stated to be a misnomer. There are various pictures among them, it is necessary to observe, that, taken separately, cannot be held to be unworthy of attention ; but looking at them as a whole, and recollecting the usual meaning which is attached to this name, they are hardly worthy of it. The public will be surprised at what is brought before them under this term. Not to enter into any criticism of their particular merits or demerits ; it must be stated that it does no service to art to parade things, which, when thus forced upon attention, can only perplex and dissatisfy the notions of all who have not made art such a study, as to be able to assign them their proper place, which is a humble one. They are quite such a gathering as when brought forward with undue importance, most efficiently demonstrates the mistake which is committed in indiscriminate picture collecting, and laudation of old art. Of this, which most feel, but few think it necessary to understand, and from whence originates all the objections and sarcasms which are constantly levelled against mere old picture buying,—there could not be found a better example. It is difficult for those whose minds are not readily pressed into the shape of every absurdity which they meet, to reconcile the idea of any worth with much which they are called upon, under the name of old art, to admire ; on the contrary, they feel that there is something wrong,—they feel that they are done an injustice to, and that they are doing a violence to their own truth, by admitting the claims of such things to attention. They descend the steps of such a gallery with the oppression to their feelings that they have been led into a participation with something which is false. It consists in this,—they have been called upon to acknowledge dilettantism, and pedant narrowness, and frequently ignorance, in the name of a great sentiment and truth. Another thing contributes to throw disrespect on old picture collecting, when this is the aim alone ; which is, that knavery often assumes the shape of its dilettantism and partial knowledge. This collection, if it must be termed so—is of a character that it would have been very much better that no special importance had been attached to ; to do so can only excite questioning, and the discussion of the merits of a gift, and in the eyes of those who are acquainted with such subjects, to say the least of it, excite surprise that such should be done in Edinburgh.

But it is hoped that these remarks will not be supposed to be meant to apply to old art in its proper virtue, as shown in the

works of the old masters ; or that they originate in the intention to aggrandize, what it is as easy in the greater number of instances to invalidate, namely, the productions of modern painting. No more would the poet, scientist, or historian, forego Dante, Bacon, or Clarendon, than the painter would Michael Angelo, Leonardo, or Vandyke ; and it is not to the spirit or labours of such minds, or of any of the masters properly called such, that objections to old picture collecting apply : It is to the overlaying the meaning of such minds—hiding them, or keeping them out of view, by placing the veriest fragments of the art in juxtaposition with them, or in places which they alone ought to occupy. The uncultivated mind, not less than the highly advanced, is not to be advantaged by labouring under mistake. Modern pictures are known by every one to abide judgment, not to have had it pronounced in their favour ; and it is in overlooking this, and raking up the merest exuviæ of ancient art, and placing them in the general eye, as portions of its life and being, that the error lies.

In this question, it is not the individual interest of one body or another which should be regarded ; which, however, be it distinctly observed, can not be hurt by the whole arrangements remaining as they at present stand. It is the innovation of these which can alone be detrimental. It has been distinctly shown in the statements of the Secretary of the Royal Scottish Academy, that it would be most easy to obviate all difficulties, if the disposition existed to do so, instead of to create and throw such in the way. It is scarcely possible that the Lords of the Treasury, or the other members of Government, would permit the proceedings to advance one step farther, were they properly acquainted with the subject. It has been seen that public funds are meant to be appropriated to the Fine Arts in Scotland ; and to those not taking a very strict view of the subject, it may be supposed actually are. To appearance, it seems that money is applied to the Arts, altogether independently of what the Board expends in its own department. A very large sum (from forty to sixty thousand pounds) had been granted to erect a building to be used for purposes connected with Art, which, done for a short period, it (in those portions so applied) was thus appropriated, then allowed to fall into comparative disuse, again brought back to its original purpose by the Academy ; and even, although by this being done, a portion of rent is derived, this threatening to divert it from its proper use is brought forward ; *and that in disregard of the objects*

*of its having been built ; in disregard of the interests of Art ; and in disregard of the feelings of the public.*

It is of no use to say that these galleries were for ancient pictures. It has been seen to what end their completion was looked forward—for “*the exhibition of the works of living artists,*” among whom the Institution had elected a number of Associates ; and to this end they were applied. The ancient exhibitions might still have been a collateral purpose, but they were relinquished ; and if they had been, not to say a sole, but even a principal object with the Institution, why were they not continued during those years when, as exhibition rooms, they were vacant, and worse than useless, inasmuch as there had been cost in erecting them, for which no adequate return was rendered, either in benefit or money. The truth is, that they were impracticable, and altogether inferior, as a means of exciting the public attention in the desired direction. The Royal Institution was established for an end which it failed to continue to fulfil—which end has been, and is, effected by the Academy.

The Trustees who, as matters have hitherto stood, are in a remote sense the organs of Government, purport to advance art in connexion with manufactures, and to establish schools for this end ; and, at the same time, strike at its very root through the Academy, which is composed of principal artists of Scotland. It is admitted on all hands, (and some of the proceedings of the Trustees themselves endeavour to acknowledge this,) that it is only from success in the higher departments of art, that superiority in art as applied to manufactures, can be derived. At no time in the history of Art has it been otherwise. Ornamental Art has followed the fate of the Fine Arts. The principles requiring to be pursued in the one, are exemplified and illustrated to their fuller extent, in the other. Whatever interrupts and retards the prosecution or success of the arts in the stricter sense, must, with a double influence, injure decorative or ornamental art. Yet with this before their eyes, the Trustees, so far as lies in their power, endeavour to perplex and throw back the interests of the Academy. Suppose a parallel case in regard to the greater establishments of London. Imagine that the Committee of Management of the School of Design in Somerset House, to which public attention has been of late a good deal turned, and in some measure to emulate which, seems the great ambition of the Trustees, —suppose these had it in their power at present to turn out the Royal Academy from its galleries in Trafalgar Square, and interrupt its exhibitions, under the profession of extending their classes,—would this be acknowledged as the best means of ad-



vancing their so-far common end, in promoting which, it is useless to say, that the Royal Academy is, with no comparison, by far the most effective Institution—that is, looking at results, and not merely at the form of immediate means. Such a proceeding would be somewhat similar to uprooting the Universities, that learning might be more effectually prosecuted by turning their Colleges into Lancastrian schools. But it is useless to argue with, or of, the Board, as it at present is managed. It gainsays its own occupation and end. A very different consistency it might have displayed. It is not even now too late, let them think of their professed aims. They have done, or been the means of doing, some things which should finally have been attended with a beneficial result; but their judgment stops short, if it was ever more than an accident, or in spite of themselves.

“Wisdom for parts, is madness for the whole.”

They allow deviations from the right path to overcome them. They will carry no thanks or sympathy with their doings, which they endeavour to push with a pertinacity which will infallibly bring down upon their own heads in brief space, an extinction of their power. Their constitution requires public scrutiny; their proceedings to be understood.

The Academy will therefore address itself to the general body of the Constituents of both the Royal Institution, and the Honourable the Board of Trustees; and failing these, to Government. Its Members are fearless of the result of an appeal to the final authorities. In England, and in Ireland, the Royal Academies of Art have both been to a certain extent aided by Government; and there can be no question, that “even-handed justice” would long ere now have been done in the instance of the Royal Scottish Academy, had there not been impediments raised which ought not to have interrupted this. However humble the efforts of the Academy may be in connexion with the elevated and wide ends of art, it comes forward to endeavour to assist in extending the influence of these; which at no period have been more a subject of interest and importance to the country.

From the strange transactions of those bodies which I have thus briefly adverted to, and the state in which the question at present stands, I have ventured to address your Lordship, as the head of her Majesty’s Government in Scotland; in the hope, that you will in this crisis of the affairs of art, institute a searching inquiry into the proceedings of the Honourable the Board of Trustees, and the Royal Institution, especially as regards their dealings with the Royal Scottish Academy; which, as a chartered insti-

tution of the Crown, feels itself entitled to solicit your Lordship's interference and protection against such unworthy aspersions as have lately emanated from these bodies, and against their threatened interruption of its measures.

I have the honour to be,

MY LORD,

Your most obedient Servant,

DAVID SCOTT.

TO THE RIGHT HONOURABLE DUNCAN McNEILL,  
 Lord Advocate of Scotland,  
 &c. &c. &c.



# WHAT IS COMPETITION?

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THE following is little else than a connected summary of the answers given by the boys attending the Voluntary Saturday Class at the Birkbeck School (*London Mechanics' Institution*), during two interrogative lessons upon the effects of Competition.

Trifle as it is, the writer ventures to present it to Mr. Runtz, the excellent master of that school, with the expression of his regard and esteem, and of the grateful feelings with which he has long watched the zeal and ability brought to bear by Mr. Runtz in his efforts to aid in the extension of a sound and useful education to all classes of his countrymen.

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## WHAT IS COMPETITION ?

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It is scarcely possible to walk abroad, to attend a discussion on public matters, or to take up a newspaper, and not to fall in with something conveying the impression that there prevails among a large number of people an opinion that "Competition" has done, is doing, and will, unless prevented, continue to do a vast deal of mischief in the world.

Another conviction, a most welcome conviction, also forces itself upon us. There is a feeling generally pervading society that the destitute and miserable form much too large a proportion of our whole population ; that this proportion may be and must be diminished, and that the causes of this misery must be inquired into and made known. On the present occasion, our wish is to ascertain whether Competition is in reality one of the causes of this undue amount of destitution and misery.

If we inquire among the destitute and miserable themselves, and if we extend our inquiries among those benevolent missionaries of humanity who explore the haunts of misery and visit their suffering brethren for the purpose of imparting comfort and relief to the objects of their commiseration, we learn that, in their opinion, much of the surrounding misery is clearly owing to "excessive Competition."

The causes of misery, mistaken or real, are subjects that must not be trifled with. Mistaken causes, while adopted as real ones, hide the real causes from our eyes, and our ignorance of the real causes, while it lasts, makes

the prevention or diminution of misery hopeless. Let us, then, endeavour to satisfy ourselves whether Competition be a real or a mistaken cause of misery—whether Competition ought to be attacked as an enemy, disregarded as of no account, or courted as a friend.

But what is this Competition?—what are its attributes and capabilities, either for good or for evil? We will set out on our travels for the purpose of collecting answers to these questions from men of practical experience who, as eye-witnesses, may be supposed best qualified to gratify our curiosity and enlighten our ignorance. We will step into an auction-room, and there we shall be told that Competition raises prices. We will attend at the opening of the sealed tenders which are sent in for the supply of a workhouse or of some branch of the public service, and there we shall be told that Competition lowers prices. When we hear of a number of displaced or unplaced labourers striving to insinuate themselves among others who are employed, we hear at the same time that Competition lowers wages. When we hear of manufactories starting into existence under the auspices of enterprising capitalists, we hear at the same time that Competition raises wages. In like manner we are told that Competition lowers rents, profits and interest; and also that it raises them. Ought we to believe all that we hear? Are all these wonders that are attributed to the influence of Competition possible and credible? Or are they contradictory and impossible and, therefore, incredible?

Again, we ask, "What is Competition?" Our inquiries abroad having led to nothing conclusive, let us now inquire at home, and marshal our own thoughts and subject them to a course of strict examination. Whence are our notions of Competition derived? Whence, but from our observation of the thoughts and wishes and conduct of those whom we consider competing men?

What we know of competing men may be narrated in very few words. As buyers in an auction-room, they wish to buy at the lowest possible price; as prospective tenants of a farm, they wish to obtain possession at the lowest possible rent; as borrowers of capital, they wish to pay the lowest possible rate of interest for the loan; as hirers of labour, they wish to pay the lowest possible wages. Yet those very persons, whose wishes are all in one direction—that of obtaining what they want on the lowest terms, are the persons whose acts are said to lead to results directly the reverse of what they wish—viz., to raising the terms. On the other hand, competing tradesmen, privately pondering upon the prices at which they will tender to provide supplies; competing landlords, on the look out for tenants; competing workmen seeking for employment; competing lenders of capital, longing to be put in communication with substantial borrowers—wishing, as they all do, to obtain the highest terms—are the persons whose acts are said to lead to the lowering of what they wish to be high.

One would fancy it must sound a little strange to those who have habituated themselves to the notion that Competition is largely instrumental in producing misery, to hear that competing men are not only acting in different directions, but that they are always acting in a direction opposite to that of their own wishes. But something yet stranger remains to be presented to them. Amidst what is called the strife of competition, a good harvest causes the price of corn to fall, as a bad harvest causes it to rise; a population rapidly increasing in civilization and numbers causes rents to rise, as a population retrograding in civilization and numbers would cause them to fall; capital increasing more rapidly than the numbers of a people will make wages rise; while an increase of the numbers of a people, more rapid than the increase of capital, will make wages fall; where capital



earns large profits the rate of interest is high, and where capital earns but small profits the rate of interest is low.

Man, in whatever part of the world we find him, is as much a competing animal as we know him to be at home. But his Competition seems to be exercised in the midst of very different results. If, for example, we compare the United States and Australia with the United Kingdom, we observe Competition, in the two first, accompanied by low rents and low prices of raw produce, and by high wages, high rates of profit and interest, and high prices of manufactured articles; while, in the United Kingdom, Competition, is accompanied by high rents and high prices of raw produce, and by low wages, low rates of profit and interest, and low prices of manufactured articles.

The preceding facts and reflections must, we should think, lead to the suspicion that the phenomena of high and low prices, high and low rents, high and low wages, and high and low rates of profit and interest, are all the effects of causes among which Competition acts a very subordinate and insignificant part. All men compete, more or less: by their very nature they must compete. They compete to make themselves comfortable, agreeably to what their notions of comfort may be. When actively engaged in any department of productive or professional industry, they compete to make their efforts successful and profitable. But their success or want of success cannot be correctly attributed to Competition, and if it be really attributable to other causes, a knowledge of which is indispensable to our well-being; there must be danger if we allow the word "Competition" to act as a charm upon our thoughts, to distract them from that course of inquiry which is likely to lead us to the discovery of those causes.

When an engineer, a physician, a surgeon, or a lawyer, has established a character for usefulness in his profession,

the public compete for his services, and his emoluments are large. The cause of his success is his professional merit, rather than the public Competition.

When one belonging to any of these classes has failed to establish a character for usefulness in his profession, the public feel no desire to compete for his slender services, and his emoluments are small. The cause of his ill-success may more truly be said to be the deficiency of his own merit than the want of public competition.

A working man, unpossessed of capital, or whose capabilities can be turned to the best account in alliance with the capital of others, has, through a long course of active service, established a character for usefulness among the employers in his department of industry. They compete for the purchase of his labour. He obtains comparatively high wages. The employer who obtains his preference, either through mismanagement or some vicissitude of trade that he had been unequal to struggle against, is obliged to suspend his work, and to discharge his workmen. Other employers are eager to secure the services of so valuable a man. Surely it is a more truthful expression to say that this workman's success is owing to his own merit rather than to the Competition of employers.

Again, other working men, either through indolence, ignorance, unskilfulness, dishonesty, unpunctuality, drunkenness, or recklessness, fail to inspire capitalists with a notion that their labour can be regularly turned to account. Some of them, however, will obtain employment, but will soon lose it by their ill conduct. When they lose it, the cause of their so losing it being no secret, other capitalists are slow to purchase what has little or no value. The whole class of such men become the casual labourers of society—the labourers who in the convulsive movements of industrial employment are apt to be thrown aside, unthought of, and uncared for. They

compete among one another for the scanty and casual wages that are still hoped for, although difficult to be obtained. Their Competition may assume a most hideous form—it may resemble the ferocious struggle of a pack of wolves for the small scrap of a single carcase. The wages, when obtained, are miserably low, constant employment is obtainable by none, and not even casual by all; and misery is general among them. Surely this misery is more correctly attributable to the character than to the Competition of the workmen.

A difficulty will suggest itself here to most inquirers, who will remind us that workmen of good, as well as those of bad character, will sometimes find themselves in the position of temporary supernumeraries. This is undeniable, and the difficulty must be investigated.

On close inspection it will be seen at once that workmen can no more be divided into two classes, good and bad, than they can be bisected into tall and short, and weak and strong. The individual workmen of whom the whole body is composed, descend by insensible gradations from the best to the worst. An uncivil or an ill-tempered man will part from his employer, when a civil or a good-tempered man will not. From one extreme to the other, it will be found that those workmen who combine in themselves the largest number of good qualities have high wages and constant employment, and those who are most nearly destitute of all will have the lowest wages and the least certain employment. It is true, there are branches of business, the employment in which is necessarily uncertain and intermittent, but the good workmen attached to this department of industry will either combine other remunerative labour with it, or will, by economy, provide against the vicissitudes inseparable from their business. Another security against suffering from temporary suspension of employment is always to be found among the *better* workmen of society—a security which should teach

us in what direction to look for the amelioration of the lot of the *worser* workmen. The better workmen, as a rule, have been blessed with industrious and provident parents, who have known their duties to their offspring, and have striven to perform them—parents who have provided themselves with the means of developing the strength and intelligence of their children, and of forming their habits, so that they may be able when men to take their share of the active duties of life with comfort, respectability and usefulness. While it was probably the lot of the *worser* workmen to be prematurely turned adrift from parental protection, or to have their undeveloped strength, unenlightened intelligence, and unformed character sold to the highest bidder by their own wretched parents, as a means of relief from a distasteful duty, or as a means of indulging some loathsome propensity.

But people who have been long accustomed to pronounce and to think that low wages, low prices, and low profits, are caused by Competition, cannot readily rectify the association which has established itself in their understandings. What is called Competition, lies on the surface of society, much as the hands on the surface of a clock, of which the spring and regulator of movement are hidden from view, but must be studied and understood. Equally necessary is it to study and understand the less apparent springs and regulators of industrial enterprise. For this purpose we will return to the contemplation of competing men, from an accurate observation of whom alone we can clear up our doubts and difficulty on the subject of Competition.

We will contemplate them as farmers, all competing for large crops, small outlay, and good prices. Among them will be some more skilful and successful in their agricultural efforts than others. They will obtain the same prices as other farmers, and consequently gain larger profits. The desire to obtain a wider scope for

their growing capital, will make them anxious to acquire possession of more land. As leases and agreements expire, they will bid larger rents. Some of the neighbouring farmers will watch their proceedings, and strive to imitate their improved methods of culture ; while others, less energetic, will shrink from the effort essential to success, and retire before those who understand farming business better than themselves. Surely it is a more appropriate, as well as more instructive description of the respective causes of the success and failure of the two sets of farmers, to say that one is aptitude, and the other inaptitude, than to declare that the unsuccessful farmers are ruined by Competition.

Passing on to the shop-keepers, or retail tradesmen, they all compete to buy at low prices, to arrange their establishments conveniently and economically, and to sell at high prices. Among them, some will have more talent for arrangement than others, and conducting their business more economically than their neighbours, while selling at the same prices, they will realize a larger rate of profit. The larger the rate of profit, above the average, the more anxious will they be to introduce additional capital into their thriving establishments. This can be accomplished only through the accession of new customers, who must be attracted by a reduction of sale-prices—a reduction causing, it is true, a somewhat lower rate, although compensated by a greatly increased absolute amount, of profit. This reduction of sale-prices will compel other tradesmen to re-model their establishments upon the improved plan ; while others, again, unequal to the situation, will be driven from the field, not through Competition, but through want of capacity to adapt themselves to the requirements of the business in which they are engaged.

Let us once more turn to the case of professional men, of surgeons, for example. Some compete by striving to

perfect themselves in the knowledge of anatomy and physiology, by acquiring surgical skill, and by establishing an unblemished character for integrity, assiduity and humanity, and thereby gain public favor and large pecuniary emoluments ; others, less strenuous, meet with less pre-eminent success ; while others, wholly unequal to the effort, make an early retreat, or loiter on, suffering, not as they delude themselves to believe, from the public neglect and blindness, or from the Competition of their professional brethren, but in reality from their deficiency in those qualities which induce patients to confide to them the restoration of their health, or the alleviation of their sufferings.

After the strictest inquiry, we must confess our inability to discover any reason for supposing that Competition is guilty of conducting, in the slightest degree, to the destitution and misery, by all deplored, and by common consent assumed to be more prevalent than they need be, or ought to be. But, it may be asked, what are the causes of this misery, among which Competition is not to be found ? To this question we should be justified in replying, our present business is with Competition. To clothe our thoughts in legal phraseology, a great crime has been committed against society—the land has been overspread with misery. The agents of mischief have hitherto escaped detection. Competition has been taken up on suspicion, has been committed for trial, has been arraigned at the bar of our Court of Common Sense. His conduct has been subjected to a minute and rigid scrutiny, and pronounced faultless. The witnesses against him have been examined and cross-examined, and the court have been shocked with their ignorance and their inconsistent and contradictory testimony. Finally, the accused has not only been most honourably acquitted ; but, on cross-examination, the witnesses have unconsciously made known who the hidden agents of mischief really are. The

existence of a gang of the most reckless villains in perpetual and active conspiracy against the well-being of society was clearly proved. Some of the more noxious among them were named, to wit—Idleness, Ignorance, Wastefulness, Dishonesty, Drunkenness, and Parental Improvidence. Well might the presiding judge indignantly express his surprise that such vile malefactors should be suffered to roam at large, and hint his suspicions that there must be some collusion or incapacity among those appointed servants of the public, whose high function and solemn duty it is to repress and confine these social pests by useful teaching and judicious training! And well may we as listeners in that court, warmly sympathising with the explicit denunciations and implied suspicions of the judge, invoke the people who complain with so much reason of the destitution and misery in their ranks, no longer to delegate the care of their own well-being to others, but to look their real enemies in the face, and combat them with those weapons which will not be wanting to their hands, if they will but manifest the sagacity and courage to make use of them.

Having satisfied ourselves that the sufferings of mankind are none of them attributable to Competition, and thus cleared away some of the obstructions which might otherwise prevent our obtaining a distinct apprehension of what are really the causes of these sufferings, and of the means by which they may be mitigated or prevented, let us proceed to inquire whether Competition is productive of any benefit to mankind.

To conduct this inquiry satisfactorily, we must again have the competing man before us, producing at as little cost as possible, purchasing at as low a price as possible, selling at as high a price as possible; and we must contrast him with the non-competing man, who is careless or inert in these matters.

Competing farmers adopt every available improvement

in the cultivation of their farms ; they know that to neglect to do so involves the probable loss of their farms. Non-competing farmers, under the most favourable circumstances, obtain less profit than their neighbours ; but more frequently become insolvent, or are compelled to relinquish their farms. The tendency of Competition among farmers, accordingly, is to give the right of possessing and cultivating the land to those who are the most competent to extract out of it the largest quantity of the raw material of the comforts and necessities of life, for the benefit of the whole community.

Competing manufacturers introduce into their establishments every process and contrivance adapted for transforming the raw material into the finished fabric, and they procure their raw material from the cheapest sources of supply, because they know, that the prices at which they must sell will be the same as those at which similar fabrics may be purchased of their neighbours. The non-competing manufacturers, bound down to the same selling prices as their competing neighbours, can only save themselves from eventual ruin by abandoning the manufacture, to the profitable conducting of which they are incompetent. The tendency of Competition among manufacturers is, thus, to transform abundant supplies of raw material into articles of manufacture, with the least possible addition of cost to the community.

Competing ship-owners build and equip ships of shapes and sizes best adapted for the different purposes to which they are severally destined, having regard to their durability, capacity, and sailing qualities, in combination with cost, knowing, as they do, that the freight which they are to earn, is not determined by the cost of their particular ships, but by the freights at which other owners, of equally suitable ships, are prepared to carry similar merchandise. Non-competing ship-owners, subject to the same inexorable conditions as to the rate of freight,



thrive so much the less, or go to ruin so much the faster, as they are the more wilful in disregarding the imperative mandate which calls upon all engaged in productive industry, to conform to that line of conduct which alone can lead to success, or save from failure. The tendency of Competition among ship-owners, accordingly, is to commit the carrying business to the charge of those who can transport merchandize and passengers from one part of the world to another, most safely, speedily, and cheaply, and thereby to keep up most efficiently those means of intercommunication, which are so important for the progressive and extending civilization of mankind.

Competing merchants apply themselves to the discovery of the best possible markets for the purchase and sale of merchandize. Knowing where they can obtain the highest prices, they can safely outbid in the buying market those who have not their knowledge. Knowing where to buy at the lowest prices, they can afford to accept prices in the selling-market, which would entail loss or ruin upon those who had not purchased so favourably. Competing merchants go still further in their efforts; they make themselves acquainted with the particular tastes of the inhabitants of different parts of the world, in order to decide upon the quality and fashion of the merchandize with which to supply them; they strive, besides, to stimulate new tastes, by opening to them the knowledge of the pleasures, refinements, and indulgences of other lands, and of the commodities which minister to them; and they search among the various modes of conveyance, the cheapest, safest, and most expeditious. The tendency of their competition being to transport the comparative superabundance of one land, to the ill-supplied inhabitants of another, and to take away of that wherein they supersabound, in exchange.

Competing retail-traders, or shop-keepers, buy from merchants or wholesale traders and producers, fix their

shops where they expect to meet with most applicants for their merchandize, and then divide, combine, and display it, so as to attract customers. They know that the prices at which they can sell, must not be higher than what neighbouring tradesmen are selling at, and that every step in their proceedings from the original wholesale purchase, to the final retail-sale, must be taken with judgment and economy, or loss rather than profit will be the result of their dealings. Non-Competing tradesmen, blind to the requirements of their position, buy unadvisedly, arrange bunglingly, and conclude by finding that the sum of their sales is unequal to balance the sum expended in purchases and outgoings. An early retreat, or later ruin, is thus the only alternative presented to such traders. The tendency of Competition among retail-traders, accordingly, is—first, to commit the management of the retail-business to those who are most competent to the work—and secondly, to cause to be distributed among the people, *i. e.*, the consumers, of all classes, and in all situations, those abundant supplies of necessaries and luxuries, brought together by the united efforts of competing farmers, competing manufacturers, competing ship-owners, and competing merchants, subtracting from them as little as possible, to remunerate the services of those engaged in the work of distribution.

When it is considered that the incomes of all,—Labourers, Capitalists, and Landlords, by the usages of society, and in accordance with the general convenience, are paid in money, that the efficacy of these incomes to procure for their possessors the means of comfortable maintenance depends quite as much upon the money's worth, as upon the amount of money, and of what importance it is that there should be, at all times and in all situations, persons competing to offer that money's worth, any lingering doubts, we would fain hope, that might yet survive among persons hitherto incredulous, of the useful offices performed by Competition will be obliterated.

While thus sensible of the meritorious services of Competition in aiding the production and distribution of wealth, we would not countenance the notion that man is to be considered solely as a competing animal. Let him compete, by all means ; but he should, besides, be so gifted with sensibilities, sympathies, and aspirations, that if his competitive efforts are crowned with success, the noblest use in his estimation to which the fruits of his Competition can be applied, will be in cheering the unsuccessful—in enlightening their ignorance, propping their weakness, correcting their errors, reforming their bad habits, and encouraging their efforts to attain self-reliance and self-respect.

Without lending ourselves to any exaggerated and, if exaggerated, untrue expression of the actual services rendered to the world by the competing, as contradistinguished from the non-competing man ; we think, in answer to the question—"What is Competition?" we may unhesitatingly pronounce that, "Competition is one of the most efficient agents for diffusing the benefits of industrial enterprize over the whole world."

NOT  
OVER-POPULATION,  
BUT  
UNDER-EDUCATION,  
THE CAUSE OF DESTITUTION:  
NOT  
MORE EMIGRATION,  
BUT  
MORE EDUCATION,  
AND OF BETTER QUALITY,  
THE  
REMEDY FOR DESTITUTION.

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Happy for mankind will be the day when all teachers are competent, like Mr. Runtz, to introduce into their schools the kind of instruction implied in the following pages. The matter which they contain might have been collected and written down by anybody who had attended the lessons and taken notes of the answers of the Birkbeck-boys. It is given in its present form at the request of M. Barthélémy Saint Hilaire, "Membre de l'Académie des Sciences Morales et Politiques," who is as anxious to improve the character of the education in France, as the writer is to improve that of the education given in England.

NOT OVER-POPULATION,  
BUT UNDER-EDUCATION,  
THE CAUSE OF DESTITUTION.

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ONE of the effects of civilization, in its present state of advancement is, that destitution and misery can no longer abide among us, as heretofore, unnoticed and uncared for. Not only is the sight of unrelieved destitution repugnant to our feelings, but to know that destitution prevails among us, for which no mitigation is attempted, is unbearable.

Modern civilization is arousing us to a sense of duties hitherto inadequately performed. To feed the hungry, to clothe the naked, to shelter the houseless—these are duties which have long been and still are enjoined. Other and higher demands are now made upon us; for we are told to continue our efforts to relieve destitution, and at the same time to couple with them efforts for its diminution and prevention.

The more intelligent among us are dissatisfied with the results of mere efforts for relief. They have long perceived that the diminution of destitution has not kept pace with the increase of appliances to relieve it: they begin to suspect that on many occasions the growth of destitution has actually been quickened by the very means applied for its relief.

These difficulties and perplexities are not to make intelligence and benevolence part company. On the contrary, the bond of union must be drawn the more closely between them. Intelligence, aided by benevolence, must

seek for the means of diminishing or preventing future destitution, with due regard to the claims of the destitute present among us; and benevolence, aided by intelligence, must endeavour so to discharge its duties to the actually destitute as not to render hopeless all attempts to prevent future destitution.

It is the sign of an improved and enlarged sense of duty, as it is the effort of an advanced civilization, to rise from the contemplation of actual destitution to a knowledge of the causes, and of the means for the prevention of future destitution. The first leads us to hold out the hand of sympathy and charity to our suffering brethren. The second elevates us to a higher duty, that of not incurring the disgrace, either through apathy or negligence, of inflicting destitution upon our posterity.

There is a marked difference of character, that ought to be specially noted, in the measures required for the relief of destitution, and in those required for the prevention of destitution. The measures for the first, are the organizing of the means of giving to the destitute that whereof they are destitute. The measures for the second, are the organizing of the means by which the causes that have produced the present destitution shall no longer be permitted to produce destitution in the future. A species of knowledge not requisite for the first set of measures is indispensable for the second. No progress can be made in the latter until the causes of destitution have been ascertained.

To the question, "What are the causes of destitution?" many and conflicting are the answers that have been given. But it may, we think, be safely stated that, among all the debated causes of destitution, few have been urged with more authority and frequency than that of overpopulation. True, this cause of destitution has been rejected most indignantly in many quarters; and amid the conflict of opinion on the admissibility or non-admissibility

of over-population among the causes of destitution, we crave permission here to interpose a few words of calm inquiry.

We must not be surprised that passion and prejudice should enter largely into questions connected with human well-being. Passion may even be taken as a proof of good intentions, however misdirected. It marks earnestness and sincerity, and from them we should never despair to extract good. Now that the first heat of discussion has had time to expend itself, there is room to hope that those whose feelings are the warmest may be willing to listen to those who scrutinize rigidly; and that dispassionate reasoners will bear with the unmeasured expressions of opponents who are led more by their sympathies than their understandings.

It may so happen, besides, when the matter in dispute is thoroughly sifted, that its dimensions will be greatly reduced. The term "over-population" may prove to be inappropriate or ill-selected; and the odium attached to the doctrine implied by "over-population" may be more deserved by the term, than by what the term is really intended to signify. It is high time, at all events, that the force of the affections and the direction of the judgment should act in unison. The interests of humanity demand their harmonious and energetic co-operation. Proud should we be to contribute to so good and noble a work!

To clear the way, it will be well to give some little consideration to this term "over-population." Its meaning, according to the generally received definition, is "population in excess as compared with the means of subsistence." We must have some expression to indicate every state of things which is of sufficient interest to rivet attention or to invite examination; and there can be little doubt that a population inadequately supplied with the means of subsistence is such a state. Is over-



population an expression well selected to designate such a state?

When our countrymen first visited Australia, the native inhabitants, although few in number, were very inadequately supplied with the means of subsistence. Was theirs a state of over-population?

Our countrymen and their descendants who now occupy these regions have greatly added to the number of the population, but they suffer from no lack of the means of subsistence.

A contrast similar to that between the natives and European colonists of Australia, might be drawn between the natives and the descendants of the European settlers in North America. The Red Indians, few in number compared with their successors, frequently suffered the greatest hardships from scarcity of food. We do not hear that the present inhabitants of the United States, large as are their numbers, constant and enormous as is the influx of new settlers from Europe, suffer in anything like the same degree from a deficiency of the means of subsistence.

We would sedulously avoid being drawn into a merely verbal discussion. Looking at facts, there is not, thus far, much room for discussion. It cannot be questioned that the natives of Australia and North America did suffer from a deficiency of the means of subsistence, or from destitution, or, if the expression under examination were to be adopted, from over-population. Our understanding must not lose its hold of the fact, because there may be some difficulty in agreeing upon the terms in which the fact is to be stated.

The importance of starting clear from misapprehension in the investigation of a subject such as this, intimately connected with human well-being, will excuse our being more than ordinarily cautious. To fix attention, then,

upon the fact from which we start, we will resort to an illustration. A ship with her ordinary complement of crew and passengers sets sail on her voyage. By some strange infatuation or culpable negligence, the owner has omitted to load the requisite quantity of stores, and the oversight is not discovered till the ship is far removed from any possibility of obtaining additional supplies. The crew and passengers cannot fail to suffer from a deficiency of the means of subsistence, or from destitution, or from over-population.

We have before us a great fact, a case of human suffering, susceptible, owing to long tolerated slovenliness of expression, of being designated by three different names. Gladly would we confine ourselves to one, out of which no controversy should arise, that we might proceed calmly and steadily to examine into the causes of this suffering. But it is doubly mortifying at our first step to track these causes, to be perplexed by hearing that this suffering, designated by one of these names, is caused by *itself*, under another of these names. Yet so it is; for over-population is unsuspectingly admitted as a cause of destitution by persons who would be astounded to hear destitution set up as a cause of over-population.

We will now pursue our inquiry and endeavour to learn whether the term over-population is ever supposed to mean anything more than what we have stated. At all events, we must not be turned aside from an investigation into so important a subject as the causes of human suffering, by the substitution of another name for the effect, in the place of the name of a real cause.

To proceed with our examination into over-population: let us inquire how it may be supposed to have manifested itself in our own country.

There is no reason why we should involve ourselves in historical details. We may assume it as a fact suf-

Sciently established, that the inhabitants of the United Kingdom have never been adequately supplied with the means of subsistence. The poor-laws of England, from their original enactment, and through their several modifications to the present day, are a convincing proof that the means of subsistence have not been considered so accessible to the entire population as they ought to be; and the active investigations still going on into prevailing destitution are a proof that poor-laws have been inadequate to supply the deficiency. The enactment of the Irish poor-laws within these few years was the consequence of a state of destitution so notorious and so wide-spread as to be no longer endurable.

The survey of our history makes known to us a state of over-population (if we may continue to use the term) quite as sad when our numbers were not more than one-fourth of what they now are; and progressively with all our improvements in agriculture, manufactures, and industrial operations in general, the introduction of the potato and the turnip, all leading to a large increase of the means of subsistence, the state of over-population seems to have been but little affected. When to this we add the emigration, of these our days—an emigration, as regards its magnitude and continuity, unexampled in the world's history, the wonders of over-population assume a still more mysterious appearance. Certainly, to pretend that destitution is traceable to over-population, and there to leave the question, is to help us but little on our way. We must endeavour to get at something a little less imaginary—a little more intelligible—a little more practical.

According to our reading of the lessons of experience, the cause of the great extent of destitution in proportion to their numbers among the natives of Australia and North America, as compared with that among the Euro-

pean settlers who have supplanted them, is to be found in the character of those natives. The natives, as is the case with all savages, were ignorant, incapable of steady labour; untractable, improvident, without skill, and without self-control. As a rule, the European settlers have been the reverse of all this. Is this difference of character adequate to account for the difference in the states of existence observable between these two races planted in the very same locality? To our apprehension it is.

Reverting to the case of the ill-found ship, is the suffering of the crew and passengers satisfactorily accounted for, when we have proved the charge of negligence or incapacity against those whose duty it was to see her properly fitted for the voyage? To our apprehension it is.

These considerations naturally direct us to the course of inquiry which, it may be hoped, will enable us to solve the over-population question as it bears upon our own country. We must separate our aggregate population into two classes—the self-supporting and the non-self-supporting; and as destitution is confined to the ranks of the latter, we will examine into some of the causes of their destitution in the spirit which directed our inquiries into the causes of destitution in Australia, North America, and the ill-found ship.

To begin, let us select out of this class those who are drunken, dishonest, and disorderly. Among these, but few will have saved out of their own earnings, or have husbanded property left them by their parents. Their subsistence will depend, accordingly, upon their opportunities to sell their labour, which, unfortunately for them, is nearly worthless. Can such persons be cited in support of the doctrine of over-population?

Let us next examine the case of the improvident, whose employment is influenced by the seasons and by fluctuations of trade. If the brick-makers among them, knowing,

as they do, that they cannot make bricks in the winter, will not set apart some of their summer earnings to supply their winter wants, and if the workmen in particular branches of manufacture will not, when employment is rife, save against the time when employment will be slack, a state of suffering necessarily awaits them. Is their destitution to be taken as a proof of over-population?

The ignorant and the unskilful demand a somewhat more elaborate notice. Knowledge and skill may almost be said to be conditions of existence in an old country arrived at the height of civilization which we have attained. Great Britain may be made the comfortable dwelling-place of twenty millions of people, or, for anything we know to the contrary, of twice twenty millions of people; but they must be well instructed in all the powers of nature, and skilful to apply them. It will not suffice that they should know how to scratch the earth with their nails, or to dig it with spades, to spin at the wheel, to ply the hand-loom, to handle the oar and the paddle, and to hew wood and draw water. It can scarcely be expected that the ignorant and unskilful will not be destitute in this country; but when ignorance and want of skill are combined with other defects of character, destitution appears to us an inevitable consequence. How far does over-population seem to be an appropriate designation for the destitution, or for the cause of the destitution, of the ignorant and unskilful?

We must not omit to notice another objection that may fairly be urged against the term over-population. It seems to suggest as a remedy for destitution that which, as we have already hinted, we conceive to be utterly inadequate and fallacious—we mean emigration. Be it understood, we no more quarrel with emigration, than with mechanical and agricultural improvements, or any other means of aiding the industrial efforts of man. We

only deprecate a reliance upon emigration, in utter disregard of all experience, as a means of warding off over-population.

That the non-self-supporting are below the average of the whole population in respect to all the social virtues, will be questioned by nobody. The self-supporting comprise in their ranks the whole body of unassisted emigrants. To assist the destitute to emigrate need be objected to no more than to assist them to food, clothing, and lodging; and destitution is as little likely to be abated by one of these methods of assistance as by the others. To promote a more extensive emigration of the self-supporting by a *bonus*, would only cause the burden of supporting the destitute at home to be borne by a diminished number of the industrious and skilful. Such a proceeding would have the effect of taxing the industrious and skilful at home, for the purpose of driving away a portion of those who were sharing with them the burden of supporting the destitute.

In whatever light we view emigration, when proposed as a remedy for what goes by the name of over-population, we cannot but anticipate that it must be as inoperative for the future, as it ever has been in times past. Emigration has never yet been able to claim the credit of removing from us, even for a time, the non-self-supporting part of our population. Had it done that and nothing more, our requirements would still be but partially satisfied. Remove the destitute if you can; but our cordial and entire approval is reserved for those efforts which are to remove destitution—a work only to be effectually performed by removing its causes—a work which the term over-population does not help us to understand, or encourage us to enter upon.

It is reported that on one occasion some lethargic or holiday legislator gave utterance to the sentiment that

it would be a great boon to humanity if Ireland could be subjected to twenty-four hours' submersion in sea-water. Such a process, there can be no doubt, would rid that island of the destitute. Would it provide security against future destitution? Our lethargic legislator was, perhaps, morally and intellectually unfit to cope with such a question. At all events, he did not condescend to tell us how many years would be required for a revival of the submerged causes to bring back the submerged effects.

To our apprehension, destitution is a more appropriate term than over-population to designate the state of men suffering from insufficiency of the necessities and comforts of life. It does not mislead by covertly prejudging the causes of suffering. To adduce over-population as a cause of this suffering, unless it be a verbal juggle or a gross misapprehension, is either a contemptible subterfuge or a cowardly evasion of a difficulty, the grappling with which demands all our energies and resources. The causes of destitution are numerous—they are manifest enough, too, if we will but open our eyes to the contemplation of them.

Arrived at this point, we are naturally led to the mention of another social deficiency, which, indeed, may be said to be the parent of all the social deficiencies that we have named. Civilized men, for by that name we may designate those men who guide their conduct by all the rules conducive to well-being, do not come ready-civilized into the world. Whether, as full-grown men, they will be civilized, semi-civilized, or utterly barbarous, depends upon the circumstances into which they are born, and through which they have to pass on to adolescence. Now the persons afflicted with the social deficiencies already enumerated, and suffering from their consequences, are the very persons who will fail so to conduct themselves as that their children shall be surrounded by the circumstances which are favorable to civilization.

What, then, must necessarily await their children, if entirely dependent upon what their parents are inclined or competent to do for them? Intelligence and habits similar to those of the parents—intelligence and habits unfitting them to earn the means of subsistence for themselves. Shall we assign over-population as the cause of their misery, or the social deficiencies, themselves the effects of the monster-cause—parental improvidence?

Rising above the intricacies and pedantry of verbal criticism, and bringing ourselves face to face with the important consequences that must follow the answer to this question, we challenge anybody who will be at the pains to weigh carefully what has been urged, to gainsay our deliberate affirmation, that the causes of human misery, so far as they are removable, are the whole host of social deficiencies, with parental improvidence at their head. And as the adequate prevalence of the social virtues is the consequence of sufficient education, so the inadequate prevalence of them is the consequence of insufficient or under-education.

Had over-population been our answer, emigration might as naturally suggest itself as a remedy to us as it has suggested itself to others. We know it is easier to ship off emigrants at the cost of the industrious and saving, than to make the idle and wasteful unship their bad habits. Our answer, therefore, will not be received with favour by those who prefer present ease with future danger, to present effort with future safety. The work of emigration may be persevered in for a time, inadequate though it be to prevent destitution. If public patience could hold out so long, under such protracted disappointment, what might we expect in the year 1900? A population in North America not far short of 200 millions, and one in Australia of twenty millions, with British pauperism unabated.

Our answer, however, being what it is, not over-popu-



lation, but under-education; the remedy is obvious—immediate and energetic efforts to make good the deficiencies in education, both as regards quality and quantity, so glaringly exposed to us in the extent of suffering, vice, and crime, that has fastened itself upon us. By such conduct, and such alone, can we hope to be excused for former negligence, to satisfy present demands, or to earn future gratitude. Emigration will ever occupy the honourable position which it ought to occupy till every part of the world has afforded shelter to its fair proportion of the whole human family. To Emigration, as to every advance in civilization, may be conceded the merit of affording to a perpetually improving race the means of making labour more productive and well-being more attainable.

Our objection to the term over-population, as must be evident, is more directed against it when used to indicate a *cause* of human suffering than when used to indicate the *effect*—the suffering itself. We certainly think destitution a term better adapted for this latter purpose. We also admit that wherever there is destitution there are too many people, because all those who are idle, ignorant, drunken, dishonest—in short, incompetent to maintain themselves, must always be too many, wherever they may be. But parental forethought, the safeguard upon which we rely, is competent to ward off future destitution, whether considered to arise from the excessive numbers or from the defective characters of a people. For parents who really deserve to be called good, according to any sound standard of judgment, will have provided themselves, previous to assuming one of the most sacred duties that man can assume, with the means of maintaining, and of teaching and training their children. The adequate provision of the means of maintaining children; previous to their birth, guards against all danger from excessive numbers; and the adequate provision of the means of

teaching and training, guards against danger from defective characters, so far as such danger can be guarded against. Subsequent efforts and arrangements, partly by individuals, and partly by society, will ever be required to deal with those exceptional cases which cannot, perhaps, be entirely prevented, but which need not be numerous when parental forethought, and, as a consequence, good education, are as prevalent as they ought to be.

Among our readers, as we well know, will be many of the rising generation ; and our concluding remarks can be addressed to none more appropriately than to them. All of their number who are about to make a fair start in life, cannot fail, on reflection, to perceive how greatly they are indebted to their own industrious, skilful, and provident parents for being able to make such a start. Neither will they fail to feel compassion for their less fortunate neighbours who are about to make a bad start owing to the ill-conduct of unwise parents. They will also be able to understand with us that upon the combined efforts of the good and the enlightened mainly depends the future decrease of destitution ; although, even with these efforts, progress will necessarily be slow. Any present generation of adults can be but partially reclaimable ; and yet we must have provident parents. But parents, as a rule, will not be provident and sensible of the duties which they owe to their children, unless they shall have been themselves well taught and well trained as children.

What a noble task thus opens upon those who can congratulate themselves upon being the children of wise parents ! After providing for their own self-support, which their good conduct, the fruit of their good education, will readily enable them to do, they will devote their surplus energies and talents to the assistance of those who are unprovided with the means of securing a fair start for themselves.

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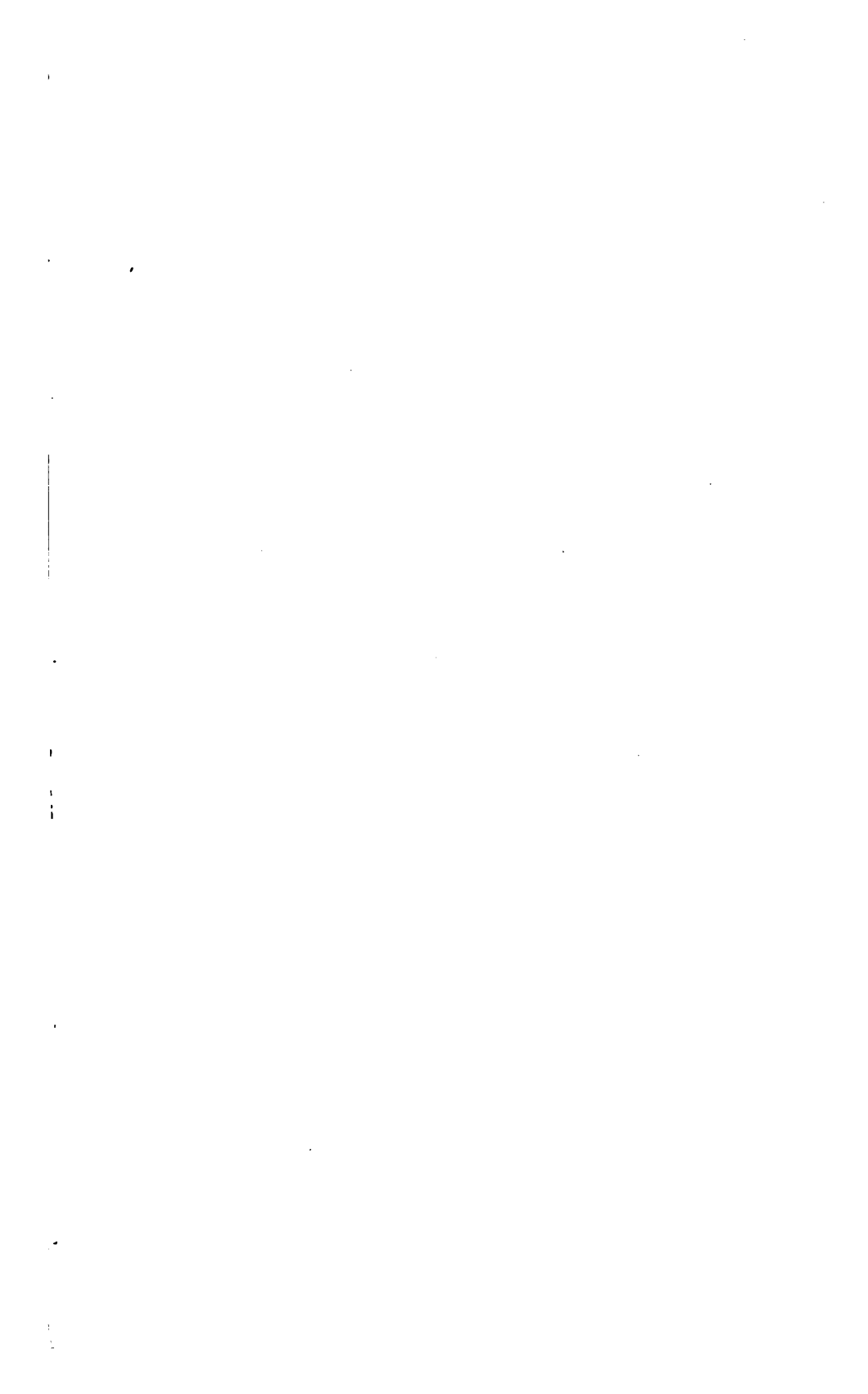
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